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# USSR Report

AGRICULTURE

No. 1330



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21 May 1982

## USSR REPORT

## AGRICULTURE

No. 1330

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## MAJOR CROP PROGRESS AND WEATHER REPORTING

### EXTENSIVE FALL PLOWING IN KAZAKHSTAN ADVOCATED

Alma-Ata KAZAKHSTANSKAYA PRAVDA in Russian 1 Oct 81 p 1

/Article: "Fall Plowing Is the Basis for the Future Harvest"

/Text/ The harvesting campaign on sovkhos and kolkhoz fields is coming to an end. The farmer already lives with concerns for the future harvest. More and more plowing units are replacing combines in fields. The long-term practice of grain growers has demonstrated that early fall plowing is a guarantee for the harvest. Therefore, machine operators are trying to carry out the fall cultivation of soil at the best agrotechnical time.

Owing to the high organization of labor, farmers in Severo-Kazakhstanskaya Oblast have now threshed grain during a maximally short period. They have also attained high rates in fall plowing. On sovkhoses and kolkhozes twice as much land has been prepared as at this time last fall.

Every year farms in Tselinogradskaya, Kokchetavskaya, Kustanayskaya and Karagandinskaya Oblasts, from the first days of the harvest, simultaneously with reaping, cultivate fields for the future harvest. It is not accidental that there are more fall plowed areas here than in other oblasts. Grain growers in Semipalatinskaya Oblast have successfully prepared land for the spring field. Soil has already been cultivated here on two-thirds of the planned areas.

However, in the republic's northern and central grain regions this year, owing to the dry summer, the conditions for the preparation of land for the new harvest are not favorable at all. This requires a correct selection of the technology and methods of fall cultivation of land from specialists. The main thing is to ensure a good moisture supply for soil and clearance of weeds from fields.

The poor provision of fields with moisture is the main feature that must be taken into consideration when methods of soil cultivation and implements for this work are selected. The republic's Ministry of Agriculture prepared in advance recommendations for the fall cultivation of land under this year's conditions. The agronomical services of the administration of agriculture, of sovkhoses and of kolkhozes should secure their competent application in practice. Under present conditions it is especially important to carry out the entire set of fall operations for the preparation of land for the future harvest quickly and in a high-quality manner. When selecting soil cultivation methods, it is necessary to take into

consideration the mechanical composition and degree of moisture of soil and the weediness of fields. This year all these factors are of paramount importance and routine in work is intolerable. Specialists of agronomical services must most attentively see to it that soil cultivating implements are adjusted correctly. For example, deep hoeing of parched soil on some fields can now do only damage and, conversely, it is necessary on heavily weedy plots. Therefore, on every farm there should be a well-thought out overall plan for soil cultivation.

Farm managers and specialists must organize work on the preparation of land for the spring field so that as many fall areas as possible are plowed before fall rain. Only then will there be a guarantee that soil will be supplied with moisture. The volume of fall plowing in the republic is large. Therefore, time must not be lost. All plowing units must be put into operation on every sovkhos and kolkhoz. It is necessary to organize their two-shift operation and to see to it that every machine operator fulfills output norms.

Grain threshing has been completed everywhere. It is possible to switch the maximum quantity of equipment and number of machine operators over to plowing. However, a number of oblasts do not hurry with this. The rates of land preparation are low on farms in Aktyubinskaya, Turgayskaya and Dzhezkazganskaya Oblasts. The removal of straw from fields is delayed here, owing to which the front of work for plowing units is not sufficient everywhere.

Under the conditions of this fall it is especially important to competently operate soil cultivating implements. Owing to the heavy soil compaction, the working elements of subsurface cultivators and hoes, especially plowshares, wear out rapidly. Their acute shortage is felt on many farms. At the same time, the enterprises of the republic's State Committee for Supply of Production Equipment for Agriculture and manufacturing plants do not provide sovkhoses and kolkhoses with sufficient spare parts. For this reason on many farms the idling of plowing units is observed and their productivity is low.

Fall is pressing farmers. Party committees and Soviet and agricultural bodies must intensify the control over the observance of land preparation schedules and help farms to organize an efficient operation of the tractor pool. During plowing, as well as during the period of other spring field operations, it is necessary to widely organize the competition of machine operators for the fulfillment and over-fulfillment of shift and 5-day assignments and for a high quality of work. Advanced methods of labor organization, such as a large-group use of the power-saturated K-700 tractors, watch shifts and others, should be put to good use. The example of the organization of work on land preparation on the Karagandinskiy Sovkhoz in Severo-Kazakhstanskaya Oblast, the Krasnopresnenskiy Sovkhoz in Kustanayskaya Oblast, the 40 Let Kazakhstana Sovkhoz and the experimental farm of the All-Union Scientific Research Institute of Grain Farming in Tselinogradskaya Oblast and many others is significant in this respect.

In Kustanayskaya Oblast farmers in Borovskiy Rayon have displayed a valuable initiative. They have initiated the competition for the best preparation of land for the new harvest. About 80,000 hectares of plowed area--one-fourth of the spring wedge--have already been plowed on the rayon's farms by the middle of September. It was decided to complete fall soil cultivation during the first 10-day period in

October. In the rayon this work is done by 65 overall mechanized detachments, which have primarily Kirovets tractors. Basically, plowing is done in two shifts. Almost all machine operators overfulfill shift assignments.

Fall plowing is the basis for the future harvest. The practice of grain growers shows that those that prepare land more and better for the spring wedge in early fall are always the winners. To carry out the set of operations for the preparation for the future harvest on schedule and in a high-quality manner is now the main task of the republic's grain growers. To perform this work on schedule means to establish a reliable basis for the future harvest.

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## MAJOR CROP PROGRESS AND WEATHER REPORTING

### REPORT ON PREPARATIONS FOR SOWING CAMPAIGN IN KAZAKHSTAN

Alma-Ata KAZAKHSTANSKAYA PRAVDA in Russian 22 Jan 82 p 1

/Article: "Toward the Sowing Campaign"

/Text/ As we were told in the republic's Ministry of Agriculture, on the whole, the preparations for the cultivation of the future harvest are proceeding satisfactorily. Seeds are cleaned, agricultural winter measures are implemented and links are equipped at higher rates than before.

Almost 94 percent of the seeds of grain and pulse crops are already standard. Following Severo-Kazakhstanskaya and Karagandinskaya Oblasts, in practice, farmers in Tselinogradskaya Oblast have completed their preparation. Farms have a big quantity of first-category seeds (40 percent) and a small quantity of third-category seeds. Highly productive, new varieties will become widespread. Farms in Kustanayskaya and Taldy-Kurganskaya Oblasts are also close to the completion of the cleaning of seeds. Their quality is very high here.

A much bigger quantity of seeds of the Omskaya-9 and Tselinnaya-21 wheat introduced in a number of oblasts and of the Donetsk-8 barley than last year was stored in the republic.

The condition of seeds in Dzhambul'skaya, Kzyl-Ordinskaya and Chimgentskaya Oblasts evokes concern. Grain is substandard here. Many seeds are of the third category. Their proportion is also high on farms in Alma-Atinskaya and Aktyubinskaya Oblasts.

The decree of the CPSU Central Committee and the USSR Council of Ministers "On Additional Measures for the Preparation for and Performance of Spring Field Work in 1982" set the task of bringing seeds up to high standards in the very near future. First of all, it is necessary to exchange substandard for standard grain. This work should be done before the spring season of bad roads. It is necessary to intensify the cleaning of seeds and with the arrival of spring to subject them to thermal air heating.

Snow retention, the delivery of fertilizers and the equipping of links for the cultivation of grain and other crops should be accelerated. In the republic as of 20 January white ridges were formed on 12 million hectares and more--46 percent of the projected area. One-half of the planned amount of humus was delivered to fields.

Farms in Kokchetavskaya and Pavlodarskaya Oblasts, where embankments have been formed on more than fourth-fifths of the area, take the lead in snow retention. Fertility detachments in Karagandinskaya Oblast have delivered more than two-thirds of the planned quantity of organic fertilizers to fields. Farms in Alma-Atinskaya and Dzhambul'skaya Oblasts lag in this work.

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## MAJOR CROP PROGRESS AND WEATHER REPORTING

### PREPARATIONS FOR FUTURE HARVEST IN KAZAKHSTAN DESCRIBED

Alma-Ata KAZAKHSTANSKAYA PRAVDA in Russian 16 Jan 82 p 1

/Article: "To Prepare the Basis for the Future Harvest"/

/Text/ The past agricultural year proved to be not easy for Kazakhstan's grain growers. The prolonged drought did great damage to farming. Despite this most farms managed to show good work results and to fulfill the assignments and socialist obligations for the production and sale of basic types of products and raw materials to the state. Party organizations, Soviet and agricultural bodies, farm managers and specialists are called upon to profoundly analyze the activity of every collective, to introduce the achievements of science and advanced experience into practice, to activate all production reserves and to ensure the production of high harvests in 1982. The decisions of the 26th party congress, of the November (1981) Plenum of the CPSU Central Committee and of the 15th Congress of the Communist Party of Kazakhstan demand this.

The republic's farmers are now engaged in extensive preparatory work for the forthcoming field season. The basis for an efficient utilization of agricultural equipment during the period of field work, that is, for a successful performance of spring sowing and gathering of the harvest of the second year of the five-year plan, is now being established in sovkhos and kolkhos shops, specialized enterprises of the State Committee for Supply of Production Equipment for Agriculture, machine yards and technical service centers. Machine operators in Severo-Kazakhstanskaya Oblast, initiators of the republic competition, show an example in this. Following their initiative, repair services in Kokchetavskaya, Kustanayskaya, Vostochno-Kazakhstanskaya and Karagandinskaya Oblasts ensured high rates of equipment restoration.

On the whole, the situation is not bad. The preparation of tractors and trailing implements is proceeding faster than last year and almost one-half of the combine pool has been placed on the line of readiness. Now it is necessary to organize the repair of machines on the basis of advanced technology on lagging farms in Dzhezkazganskaya, Kzyl-Ordinskaya, Semipalatinskaya and Turgayskaya Oblasts and to follow the planned schedule. It is important, not losing time, to organize work in shops so that the regularity of the entire repair conveyor is ensured. Following the example of advanced workers, it is necessary to activate the work of specialized links everywhere and to enlist the most skilled and experienced machine operators, fitters, turners and foreman adjusters in this. We must see to it that all the conditions for highly productive labor are created in shops. The duty of every rural machine operator, worker and engineering and technical expert is to ensure a high technical readiness of the entire machine and tractor pool for the forthcoming spring field work.

Concern for an increase in soil fertility is one of the decisive factors in the growth of the future harvest. In the arsenal of farmers there is sufficient equipment. When it is utilized efficiently, it is possible to constantly increase the output of grain and other products. On the republic's farms more fall plowed areas and fallow have now been prepared and the application of fertilizers directly to rows during sowing will be increased. All this gladdens us. However, it must not be forgotten that winter /few illegible words/ for moisture supply for soil. Snow retention and water supply irrigation are in the forefront. The use of these agrotechnical methods is especially important, because in some regions there is a moisture deficit and fields have entered winter before the arrival of rain. It is necessary to utilize in every possible way the experience of the farms that even under conditions of winter with little snow manage to accumulate precious moisture in a sufficient quantity.

The success of the fight for the harvest will depend on a prompt preparation and processing of seeds. Our grain growers have accumulated sufficient experience in this. Many farms process grain as early as fall. This enables them to clean and place high-quality seeds for winter storage in advance. A total of 504 sovkhoses and kolkhozes--one-fourth of the republic's farms--now have only first- and second-category seeds. However, this is not the case everywhere. For example, in Dzhambul'skaya, Kzyl-Ordinskaya and Chimbentskaya Oblasts this indicator is very low. On a number of farms in Pavlodarskaya and Semipalatinskaya Oblasts to this day some batches of seeds have not been cleaned and presented to seed inspectorates for quality testing. Local party, Soviet and agricultural bodies must place the course of preparation of seeds under control and strictly observe their prompt exchange from state resources and supply for all sovkhoses and kolkhozes as fully needed for every crop.

The formation of the future harvest will largely depend on the application of organic fertilizers to soil. However, facts indicate that a number of farms in Alma-Atinskaya and Kokchetavskaya Oblasts do not hurry with the delivery of organic fertilizers. Such a situation can no longer be tolerated. Managers and specialists, primarily agronomists, should take urgent measures to eliminate the allowed lag. Every farm has the conditions and capabilities for this.

Winter grain crops play a prominent role in the republic's grain balance. They have been sown on more than 2 million hectares. Good sprouts have been obtained almost everywhere. However, the harshest winter months are ahead. This means that it is necessary to do everything that is possible for a thorough care of crops--topdressing, control of plant pests and diseases and other operations. Every hectare of winter crops should produce a guaranteed harvest.

The establishment of a firm basis for the harvest is inconceivable without people. The machine operator is the main figure during sowing, care of plants and harvesting. That is why it is necessary to fight decisively for an increase in the detachment of first-class specialists during winter time. It is very important to raise universal compulsory education for machine operators to a qualitatively new level. The high skill and lasting knowledge of machine operators are some of the decisive conditions in the successful accomplishment of the tasks of the second year of the five-year plan for an increase in agricultural output. During these intense days it is necessary to intensify the control over the course and quality of training in advanced experience schools and courses of universal compulsory education for machine operators directly on farms.



To manifest maximum concern for the future corn field everywhere, to sharply increase the fertility of fields and to fulfill and overfulfill the plans for the production and procurement of agricultural products means to make a worthy contribution to an efficient development of the entire agroindustrial complex and to the solution of the food problem. All the efforts of rural workers must now be directed toward this.

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## MAJOR CROP PROGRESS AND WEATHER REPORTING

### PROBLEMS IN WINTER FIELD WORK IN KAZAKHSTAN DISCUSSED

Alma-Ata KAZAKHSTANSKAYA PRAVDA in Russian 13 Jan 82 p 1

/Article: "Winter Concerns of Farmers"/

/Excerpt/ Farmers are well aware of the great importance of the accumulation of winter moisture on fields. Proper attention is paid to this agricultural method on many farms. In the republic on 10 January snow embankments were formed on an area of 8.7 million hectares, that is, on almost one-third of the envisaged fields. Sovkhozes and kolkhozes in Dzhezkazganskaya, Kokchetavskaya and Pavlodarskaya Oblasts made snow ridges on more than two-thirds of the areas, in Vostochno-Kazakhstanskaya Oblast, on one-half and in Karagandinskaya, Severo-Kazakhstanskaya, Semipalatinskaya and Tselinogradskaya Oblasts, on one-third of the assignment. It is very important to carry out this work at higher rates everywhere.

The delivery of organic fertilizers to fields is not a less important measure during this period. Since 1 October 1981 a total of 14.5 million tons of organic fertilizers, or 45 percent of the assignment, have been delivered to places of application. The transportation of manure was well organized in Karagandinskaya, Kustanayskaya, Turgayskaya and Tselinogradskaya Oblasts, where more than one-half of the envisaged work was performed. However, many farms in Aktyubinskaya, Alma-Atinskaya, Dzhambul'skaya, Kzyl-Ordinskaya and Kokchetavskaya Oblasts do not hurry with the transportation of organic fertilizers.

Only one-third of the set assignment has been fulfilled here and the rates of delivery remain extremely low. Farm managers and specialists must take every measure to eliminate the lag in this matter. Every sovkhov and kolkhoz has the conditions and capabilities for this.

Seed preparation for the forthcoming spring sowing occupies an important place in the set of agrotechnical winter measures now implemented on farms. In the republic on 1 January there were 3 million tons, or 92 percent, standard seeds of grain crops, of which more than three-fourths corresponded to the first and second category of the sowing standard. Many farms in Vostochno-Kazakhstanskaya, Karagandinskaya, Kustanayskaya, Severo-Kazakhstanskaya, Taldy-Kurganskaya, Turgayskaya and Tselinogradskaya Oblasts have good-quality seeds. On these farms high-category seeds comprise 80 to 87 percent. A good tradition, that is, to treat seed grain as it arrives during the harvesting period, was established on many sovkhozes and kolkhozes. This enabled them to clean and place high-quality seeds in warehouses for winter storage in advance. Most farms in Alginskiy and Leninskiy Rayons,

Aktyubinskaya Oblast, in Zyryanovskiy and Shemonaikhinskiy Rayons, Vostochno-Kazakhstanskaya Oblast, in Kellеровskiy Rayon, Kokchetavskaya Oblast, in Taranovskiy, Semiozernyy and Borovskiy Rayons, Kustanayskaya Oblast, and in Andreyevskiy and Kerbulakskiy Rayons, Taldy-Kurganskaya Oblast, will now sow only first- and second-category seeds. In all 504 sovkhoses and kolkhoses, or one-fourth of the farms, in the republic have higher-category grain seeds.

However, this is not the case everywhere. For example, in Dzhabul'skaya, Kzyl-Ordinskaya and Chirkentskaya Oblasts less than 40 percent of the stored seeds meet the requirements of the first and second category and a substantial quantity of seeds are substandard in terms of admixtures of other crops and weeds. On a number of farms in Dzhezkazganskaya, Pavlodarskaya and Semipalatinskaya Oblasts to this day some batches of seeds have not been cleaned and presented to seed inspectorates for quality testing. In Dzhabul'skaya, Semipalatinskaya, Ural'skaya and Chirkentskaya Oblasts a number of farms do not have standard seeds at all. These oversights must be rectified immediately.

On individual farms some batches of seeds have a low germination and an admixture of a substantial amount of weeds that are difficult to separate. Such seeds should be replaced with high-quality seeds from state resources. Many oblasts have already begun exchange operations. Agronomists of farms and agricultural bodies should place this work under constant control and in the very near future complete the acquisition of seeds from state resources and provide them to all sovkhoses and kolkhoses for spring sowing as fully needed for every crop.

For this year's harvest the republic's farms stored more seeds of highly productive, new varieties of wheat--Omskaya-9, Tselinnaya-21, Kazakhstanskaya-3 and Almaz--and of barley--Donetskiy-8, Tselinnyy-5 and others--than during past years. All sovkhoses and kolkhoses will be fully provided with high-quality corn seeds for sowing both for grain and for feed purposes. At corn processing plants their preparation is now being completed and they are being shipped to oblasts for distribution to farms.

Special concern for the winter field should be manifested. It now occupies an area of more than 2 million hectares in the republic. On most areas winter crops have entered winter in a good and satisfactory state. The task now is to stock the necessary quantity of mineral fertilizers during the winter period and to carry out the spring topdressing of winter crops in a prompt and high-quality manner. This is especially important for the fields where fertilizers were not applied in fall. It is also necessary to envisage a possible reseeding and repair of part of the areas where ruined or thinned out crops will appear after wintering. For this purpose it is necessary to store seeds of spring crops with which the reseeding will be done and to also perform other operations connected with the care of crops of the winter wedge envisaged according to the technology of their cultivation.

Party and agricultural bodies, farm managers and specialists and all rural workers should make every effort and apply their knowledge and skill to establish a good foundation for a high harvest of all crops during the second year of the five-year plan and to make a worthy contribution to the accomplishment of the tasks set by the 26th party congress and the November (1981) Plenum of the CPSU Central Committee.

## MAJOR CROP PROGRESS AND WEATHER REPORTING

### RAPID COMPLETION OF SPRING FIELD WORK IN KAZAKHSTAN URGED

Alma-Ata KAZAKHSTANSKAYA PRAVDA in Russian 21 Feb 82 p 2

/Article: "For the New Harvest"

/Excerpt/ Basically, the republic's farms have already completed the preparation of seeds for sowing. As of 15 February 96 percent of the seeds of grain crops meet sowing standards, including 82 percent, the requirements of the first and second category of the sowing standard. However, on individual sovkhoses and kolkhoses some batches of seeds proved to be substandard--with a low germination--and contain weeds that are difficult to separate. Such seeds should be exchanged for better-quality seeds from state resources. A total of 23,800 tons have already been received in exchange throughout the republic. However, in many rayons the transportation of seeds from grain receiving centers is slow. Farms in Aktyubinskaya, Kokchetavskaya, Kustanayskaya, Pavlodarskaya, Ural'skaya and Tselinogradskaya Oblasts will have to exchange a substantial quantity of seeds. As of now they have received less than one-half of what has been planned. Alma-Atinskaya, Dzhambul'skaya, Taldy-Kurganskaya and Chimkent'skaya Oblasts have not fully received seeds from state resources.

The sovkhoses and kolkhoses that have standard seeds of grain crops with a moisture of no more than 16 percent must begin their treatment in the next few days. We must prepare ourselves well for this agricultural measure everywhere and ensure its implementation according to the established technology and in a high quality manner.

During this period the most serious attention should be paid to the preservation of potato seeds. A number of farms did not organize the sorting out of potatoes on schedule and allowed tuber spoilage. Warm weather will begin to set in soon. Therefore, it is very important to maintain the necessary regime of seed storage in potato storage facilities and to observe the condition of seeds day and night.

This year on sizable areas corn, sunflower seeds, sugar beets, soybeans and cotton will be cultivated according to industrial technology with the application of herbicides and maximum mechanization of field work. The practical experience of many farms in the republic has demonstrated the high effectiveness of this technology. Last year in the republic the average yield of corn cultivated by the new method totaled 54.4 quintals per hectare and by the ordinary method, 45.7 quintals. The Belokamenskiy Sovkhoz in Vostochno-Kazakhstanskaya Oblast, cultivating sunflower seeds according to industrial technology, obtained 24.4 quintals

of oil seeds per hectare and, by the ordinary method, 4.4 quintals less. Good results were also obtained for other crops. The present task is to popularize the available experience in the cultivation of these crops according to the new technology and to teach machine operators and link leaders the new procedure so that all sovkhoses and kolkhoses and every link attain high results.

The topdressing of winter crops, which now occupy 1,707,000 hectares, with mineral fertilizers is an important agricultural measure during this period. Many farms have already begun this work. More than 300,000 hectares of the winter field have been fertilized in the republic. However, it must be admitted that on a number of sovkhoses and kolkhoses in Dzhambulskaya and Chirkentskaya Oblasts this work is done at slow rates and this can lead to the fact that a part of the fields will not be cultivated.

At present most farms carry out topdressing on snow with airplanes and by the ground method with the special RUM-5 and RMG-4 mineral spreaders and other implements. As a rule, most of the winter wedge is fertilized by such a method. However, some sovkhoses and kolkhoses will not manage to complete this work before the beginning of warm weather and in this case the root topdressing of plants should be carried out on the remaining area.

Party and agricultural bodies, farm managers and specialists and all rural workers should take the necessary measures for the most rapid completion of the preparation for the implementation of the agrotechnical spring complex and ensure a high quality of field work everywhere.

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CSO: 1824/248



## MAJOR CROP PROGRESS AND WEATHER REPORTING

### IMPROVEMENT IN QUALITY OF SEEDS IN KAZAKHSTAN NEEDED

Alma-Ata KAZAKHSTANSKAYA PRAVDA in Russian 10 Feb 82 p 1

/Article: "Gold Stock"/

/Text/ The republic's farmers pay considerable attention to seed preparation. In Alma-Atinskaya, Vostochno-Kazakhstanskaya, Karagandinskaya, Kzyl-Ordinskaya, Severo-Kazakhstanskaya, Tselinogradskaya and Chimkentetskaya Oblasts they have been fully tested. This work is also being completed in other oblasts. About 95 percent of the tested seeds are considered standard and more than 80 percent, of the first and second category. Most sovkhoses and kolkhoses in Alma-Atinskaya, Vostochno-Kazakhstanskaya, Karagandinskaya, Kokchetavskaya, Kustanayskaya, Severo-Kazakhstanskaya, Taldy-Kurganskaya, Turgayskaya and Tselinogradskaya Oblasts have high-quality seeds.

However, in farms in Dzhambul'skaya, Kzyl-Ordinskaya and Chimkentetskaya Oblast less than one-half of the tested seed grain meets high requirements.

Kazakhstan is the largest supplier of strong and durum wheats in the country. In fall of last year much more such grain was stored in state bins than during previous years. Farmers are firmly pursuing this course for an improvement in the quality of grain.

Continuing the replacement of the Saratovskaya-29 wheat, the republic's breeders have placed in production a number of new spring wheat varieties for cultivation. This is primarily Tselinnaya-21, which has been regionalized in four oblasts in the republic. This variety was developed by scientists at the All-Union Scientific Research Institute of Grain Farming in Shortandy.

It is necessary to make every effort so that every farm sows only high-quality seeds.

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CSO: 1824/248

## MAJOR CROP PROGRESS AND WEATHER REPORTING

### PROGRESS IN SNOW RETENTION IN KAZAKHSTAN

Alma-Ata KAZAKHSTANSKAYA PRAVDA in Russian 3 Feb 82 p 1

/Article: "Winter Agrocomplex"/

/Text/ According to the data of the Kazakh SSR Ministry of Agriculture, as of 1 February snow retention in the republic was carried out on 20,062,000 hectares--71 percent of the assignment--which is almost 4 million hectares more than on the same date last year.

On the entire planned area, having formed snow ridges, farms in Kokchetavskaya, Pavlodarskaya and Dzhezkazganskaya Oblasts are engaged in the accumulation of winter moisture on the second track. Vostochno-Kazakhstanskaya and Severo-Kazakhstanskaya Oblasts are close to the fulfillment of the assignment. High rates have been attained here owing to the group use of equipment in two shifts and to the provision of links and detachments primarily with powerful Kirovets tractors, each having two snow ridgers and more.

In western and Kustanayskaya Oblasts there is not much snow this winter and machine operators are making efforts to "preserve" all moisture. Farmers in Kustanayskaya Oblast have already used this important agricultural method on 3.38 million out of 5 million hectares according to the assignment.

More organic fertilizers were carted out than last year--over 18 million tons, or 56 percent. Fertility detachments in Karagandinskaya Oblast are in the lead. They fulfilled three-quarters of the plan. The delivery of humus to fields in Kustanayskaya, Tselinogradskaya and Taldy-Kurganskaya Oblasts is proceeding well. In Alma-Atinskaya, Dzhambul'skaya and Kokchetavskaya Oblasts arable land is fertilized slowly. Only 38 to 40 percent of the planned areas have been topdressed.

Agricultural studies are continuing. On sovkhoses and kolkhoses more than 96,000 rural workers are involved in them with a plan of 81,100. Links for grain, industrial, fodder and vegetable crops are being organized. More than 16,300 such links have been formed.

11,439

CSO: 1824/248



## MAJOR CROP PROGRESS AND WEATHER REPORTING

### SURVEY OF CURRENT AGRICULTURAL WORK IN KAZAKHSTAN

Alma-Ata KAZAKHSTANSKAYA PRAVDA in Russian 7 Jan 82 p 1

/Article: "On the Republic's Fields"/

/Text/ During the past 10-day period snow retention in the republic was carried out on more than 2.5 million hectares. White embankments now extend on an area of more than 6 million--22 percent of what has been planned. Farmers in Kokchetavskaya Oblast fulfilled more than one-half of the assignment and in Pavlodarskaya Oblast, 46 percent. Machine operators in Vostochno-Kazakhstanskaya and Tselinogradskaya Oblasts are retaining winter moisture at high rates. They coped with almost one-third of the assignment.

The delivery of organic fertilizers is proceeding better than last year. About 12.5 million tons--38 percent--have been delivered to fields. Fertility detachments in Kustanayskaya and Turgayskaya Oblasts coped with more than one-half of the assignment. Machine operators in Dzhezkazganskaya, Karagandinskaya, Pavlodarskaya, Taldy-Kurganskaya and Tselinogradskaya Oblasts fulfilled the plan 40 percent and more.

The preparation of seeds is continuing. About 3.2 million out of almost 3.3 million tons of seeds have been tested. More than 91 percent are considered standard, including 76.8 percent, of the first and second category--much more than a year ago. Farms in Severo-Kazakhstanskaya, Chimkentskaya, Kzyl-Ordinskaya and Karagandinskaya Oblasts fully completed the testing of seeds. Farmers in Aktyubinskaya, Vostochno-Kazakhstanskaya, Taldy-Kurganskaya and Tselinogradskaya Oblast are completing this work. In Karagandinskaya and Severo-Kazakhstanskaya Oblasts all the tested seeds are considered standard. In Vostochno-Kazakhstanskaya, Taldy-Kurganskaya and Tselinogradskaya Oblasts more than 95 percent of the seeds are standard.

The number of circles for the study of the principles of agrotechnology is growing. A total of 78,500 rural workers are now involved in studies--much more than at the beginning of January of last year.

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## MAJOR CROP PROGRESS AND WEATHER REPORTING

### BRIEFS

SNOW RIDGES--Kokchetav--Machine operators in Kzyltuskiy Rayon were the first in the oblast to complete the formation of snow ridges on the entire projected arable land. Collectors for winter moisture have been set up on 300,000 hectares. Links, mainly of Kirovets tractors, have been established on all farms here. Farms in Chistopol'skiy and Shchuchinskiy Rayons are also retaining snow at high rates. In the oblast ridges have been formed on 2.2 million hectares--two-thirds of the projected areas. /Text/ /Alma-Ata KAZAKHSTANSKAYA PRAVDA in Russian 7 Jan 82 p 1/ 11,439

SUGAR BEET SEEDS--Dzhambul, 2 Mar--Spring is now early in our area, but it has not taken farmers by surprise. Field work on the preparation of soil and for the sowing of other crops is expanding. Machine operators are trying to perform it carefully at the best time. The grading of sugar beet seeds by size is being completed on the oblast's farms. To increase the germination energy, it was decided to treat them with a special malt solution. As experience has shown, the germination of such seeds increases considerably. The oblast's farmers are striving to mark the second year of the five-year plan, the year of the 60th anniversary of the Union of Soviet Socialist Republics, with high production indicators. Specific measures for a rise in the standard of farming and in soil fertility have been worked out on farms. /By A. Iseyev/ /Text/ /Moscow SEL'SKAYA ZHIZN' in Russian 3 Mar 82 p 1/ 11,439

FALL PLOWING--Semipalatinsk, 4 Sep--The oblast's farmers will have to plow almost 1.5 million hectares of fall area for next year's harvest. In Urdzharskiy Rayon this work has been organized better than in other rayons. As last year, a sizable amount of arable land has been prepared here in August. Farms in Novoshul'binskiy and other rayons pay much attention to this agricultural method. The rates of fall plowing, including moldboardless plowing, are increasing in the oblast every day. Everything that is necessary to accelerate seed cleaning is being done. /By Ye. Anakin/ /Text/ /Moscow SEL'SKAYA ZHIZN' in Russian 5 Sep 81 p 1/ 11,439

ORGANIC FERTILIZERS--Chimkent, 2 Feb--The oblast's farmers have carted out 860,000 tons of organic fertilizers, out of the 1.43 million tons envisaged by the assignment, to fields. Farms in Sayramskiy, Lengerskiy and Dzhetyysayskiy Rayons are carrying out this work with particular success. The rates of fertilizer delivery are higher than last year. Mechanized fertility detachments have been established in 14 rayon departments of the All-Union Scientific Production Association for Agrochemical Services to Agriculture. They have 135 tractors, including 29 K-700, 132 tractor trailers, 69 spreaders and 16 loaders. /By A. Utyaganov/ /Text/ /Moscow SEL'SKAYA ZHIZN' in Russian 3 Feb 82 p 1/ 11,439

SOWING OF WHEAT, BARLEY--Chimkent--During the first year of the 11th Five-Year Plan the oblast's farmers stored twice as much grain as determined by the plan in the homeland's bins. They now intend to consolidate the achieved success. Many more winter crops have been sown. More than 200,000 hectares have been allocated for the Krasnovodopadskaya-210 wheat, which during drought years produces 3 to 4 quintals of grain per hectare more than Bezostaya-1. More than 60,000 hectares are occupied by the Zavet barley, whose yield exceeds the output of the regionalized U-numli-Arpa variety threefold. On one-half of the area grain crops have been sown with a simultaneous application of fertilizers. Farmers are now topdressing winter crops. More than 70,000 hectares of sown areas have already been fertilized. /By A. Utyaganov/ /Text/ /Moscow SEL'SKAYA ZHIZN' in Russian 10 Jan 82 p 1/ 11,439

SEED PREPARATION--Kustanay, 4 Dec--Workers in Naurzumskiy Rayon have begun the preparation of seeds immediately after the end of the harvest. They have been completely cleaned and improved to meet the requirements of the first and second category. Serious attention is also paid to seed preparation on farms in Kustanayskiy, Fedorovskiy, Ordzhonikidzevskiy and Taranovskiy Rayons, where 93 to 95 percent of the tested seeds meet the requirements of the first and second category. The cleaning of seeds is being completed throughout the oblast and their testing is in full swing. Where batches of seeds not meeting high requirements are found, repeated cleaning is done. The results of analyses gladden us--92 percent of the tested seeds have been included in the first and second category. /By I. Puzyrev/ /Text/ /Moscow SEL'SKAYA ZHIZN' in Russian 5 Dec 81 p 1/ 11,439

LUCERNE SOWING--Dzhambul, 4 Mar--In the south of Kazakhstan spring brought a surprise to rural workers. At the beginning of field work arable land "ripened" in Dzhambulskaya Oblast, not in Chimkentskaya Oblast, as usually. However, this did not take local machine operators by surprise. Having carefully prepared themselves for the establishment of the new harvest, they began sowing in an organized manner. The seeds of fodder crops were placed in soil on the first thousands of hectares. Preference is given to lucerne, which is becoming the basic reserve for the replenishment of feed in the oblast. Occupying only 170,000 hectares, it provides rations for one-half of the public livestock population. /Text/ /Moscow SEL'SKAYA ZHIZN' in Russian 5 Mar 82 p 1/ 11,439

SNOW RETENTION--Kokchetav, 5 Feb--Machine operators in this large virgin-land oblast have completed snow retention on an area of more than 3.5 million hectares. White plowing has begun for the second time everywhere. On farms equipment is used in two and sometimes in three shifts. More than 500 mechanized detachments and links equipped with Kirovets tractors are engaged in snow retention. /Text/ /Moscow SEL'SKAYA ZHIZN' in Russian 6 Feb 82 p 1/ 11,439

RESERVE SEED STOCK--Taldy-Kurgan, 10 Dec--Kolkhozes and sovkhoses in the leading grain rayon--Kerbulakskiy--were the first in the oblast to prepare productive seeds meeting the requirements of the first and second category for the entire spring wedge. A reserve seed stock was also established. Success was ensured by the repeated processing of seed grain on sorting, cleaning and grading machines. In the oblast seeds are being prepared for spring much more rapidly than last year and the testing of their quality is in full swing. A total of 90 percent of the tested seeds have been included in the first and second category. /By M. Davidovich/ /Text/ /Moscow SEL'SKAYA ZHIZN' in Russian 11 Dec 81 p 1/ 11,439

AERIAL TOPDRESSING--Taldy-Kurgan, 20 Mar--Agricultural aviation airplanes are circling over fields of winter crops--wheat is being topdressed. On all farms runways have been built and the loading of fertilizers has been mechanized. Every day each crew performs 25 flights and applies fertilizers to 400 hectares of fields with a norm of 300 hectares. At the same time, winter crops are being topdressed by the ground method. In the oblast 50,000 hectares of wheat--one-fourth of the winter wedge--have already received nitrogen fertilizers. The preparation for spring sowing is in full swing. /By M. Davidovich/ /Text/ /Moscow SEL'SKAYA ZHIZN' in Russian 21 Mar 82 p 1/ 11,439

OVERALL MECHANIZED DETACHMENTS--Chimkent--The oblast's machine operators use with maximum return every hour of the good spring weather for sowing. In the Golodnaya Steppe and the Kelesskaya Valley they sowed barley on the first thousands of hectares of fields. Overall mechanized detachments on most sovkhoses and kolkhoses intend to complete their work twice as rapidly as usually. Time gain is of special importance for local conditions. It will make it possible to carry out the sowing campaign before the arrival of the prolonged bad spring weather, which, as a rule, postponed field work by 10 to 15 days. /Text/ /Moscow SEL'SKAYA ZHIZN' in Russian 18 Mar 82 p 1/ 11,439

MINERAL FERTILIZERS--Alma-Ata, 6 Feb--Agricultural aviation airplanes have begun the mass topdressing of winter crops with mineral fertilizers in Kazakhstan today. Rural workers became convinced in practice of the effectiveness of this agrotechnical measure at the end of winter. The increase in the harvest per hectare is 3 to 5 quintals of grain. Work will be carried out on no less than 1.5 million hectares. /Text/ /Moscow SEL'SKAYA ZHIZN' in Russian 7 Feb 82 p 1/ 11,439

SOWING OF WINTER CROPS--Ural'sk--The mass sowing of winter grain crops has begun in the steppe Ural area. The assistance of collectives of industrial enterprises and construction projects enables farmers not to lower the rates of harvesting of spring crops and of feed procurement. /Text/ /Moscow TRUD in Russian 16 Sep 81 p 1/ 11,439

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## LIVESTOCK FEED PROCUREMENT

### BRIEFS

LIVESTOCK FEED STANDARDS--On 4 March 1982 the USSR State Standards Committee established a complete standardization program for feed. It is intended to solve problems in improving the quality of procured livestock feed and to reduce losses in its production, processing and storage. The program involves development and review of 53 technical-standard documents including 24 All-Union State Standards, 8 All-Union Standards and 21 technical specifications. Review and formulation of new standards is planned for green chop utilized in the preparation of hay, haylage and silage, and also for organic acids and yeasts used in the preservation of feed. A standard for a new type of feed is being introduced, a green protein concentrate with an increased protein content. Higher requirements for technical parameters are provided in the tasks for new standards for machinery, equipment and transport facilities. The task has been set to improve storage for feed, apparatus and the methods for determining feed quality, and also to guarantee the complete mechanization of its preparation. [Text] [Moscow EKONOMICHESKAYA GAZETA in Russian No 12, Mar 82 p 7]

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## LIVESTOCK

### MEASURES TO INCREASE RSFSR BEEF PRODUCTION OUTLINED

Moscow MOLOCHNOYE I MYASNOYE SKOTOVODSTVO in Russian No 3, Mar 82 pp 16-19

/Article by D. Levantin, professor: "Means for the Industrial Production of Beef on RSFSR Farms"/

/Text/ The agricultural workers in the RSFSR, who account for almost one half of the country's overall meat production, have been assigned great tasks with regard to increasing the production of animal husbandry products. The proportion of beef production for the RSFSR as a whole amounts to 49 percent, at kolkhozes, sovkhoses and inter-farm associations -- 56 percent and in regions of the nonchernozem zone -- 59 percent. Great opportunities are available for further increasing the production of beef.

At the present time, the meat potential of large-horned cattle for beef production throughout the republic is being utilized to only 65 percent. This is borne out by the indicators for productivity. Thus the meat yield per head of cattle in recent years has amounted to only 50-60 kilograms and the average live weight -- 344 kilograms.

During the past few years, in connection with beef production in our country and especially in the RSFSR, the importance of specialized enterprises and farms has increased noticeably, as a result of which the scale and intensity of cattle fattening operations have been expanded and improvements noted in the weight and condition of the cattle. An increase has taken place in the number of heavy-weight young stock. During the 1978-1980 period, the kolkhozes and sovkhoses in the RSFSR supplied the meat industry with young stock the average weight of which was 412 kilograms.

However, the number of cattle undergoing fattening, especially young stock, is clearly inadequate and, as a result, a large number of light-weight animals are being sold for meat purposes. In 1980, of 7.7 million head of young stock sold to the state, only 1.3 million head (18 percent) weighed more than 400 kilograms, 4.8 million -- less than 350 kilograms and the remainder -- an average weight of 256 kilograms. The fattening of low-weight young stock to a high condition constitutes a chief reserve for increasing beef production at kolkhozes and sovkhoses in Russia.

Studies carried out at VIZh /All-Union Scientific Research Institute of Livestock Breeding/ reveal that large-horned cattle strains bred at kolkhozes and sovkhoses,

following intensive raising and fattening, are capable of achieving a live weight of 450 kilograms or more and of furnishing heavy carcasses having high meat quality indicators by 18 months of age. Here it should be emphasized that more than 70 percent of the republic's cattle derive from large strains characterized by a high genetic potential.

An additional reserve for achieving growth in beef production is the final fattening of adult culled out cattle. In 1980, more than 40 percent of the adult cattle delivered for meat purposes were in a lower than average or poor state of nourishment and only 30 percent were sold in a high state of nourishment.

The conversion of beef production over to an industrial basis requires the implementation of an efficient system for labor organization and a production technology. In this regard, greater importance is being attached to the professional competence of service personnel, commencing with herdsmen-operators and continuing right up to the leader of an enterprise, and also to the strict maintenance of technological discipline during all stages of production operations.

The agricultural science and advanced practice have developed economically efficient beef production technologies. These technologies, which are successfully being introduced into operations, can be broken down into five groups:

I -- A technology having a complete production cycle, including the raising of calves from 10-30 days of age and the fattening of young stock until 14-18 months of age, with maintenance being carried out in facilities and with use being made of silage-haylage-concentrate rations;

II -- Maturing and fattening of young stock to 18-20 months of age, with extensive use being made of internally produced feed and food scraps obtained from the food industry (pulp and malt residues). Maintenance of the animals in facilities and the possible use of camps and sites during the summer;

III -- The fattening of cattle in closed facilities, with use being made of food industry food scraps combined with internally produced feed -- silage, haylage, straw and concentrates;

IV -- The fattening of cattle at various types of year-round or seasonal fattening sites;

V -- A complete production cycle, during which the raising of young stock is carried out in standard facilities, with subsequent conversion over to raising and fattening them at sites or at facilities having exercise-feed yards.

An industrial technology for the raising and fattening of cattle is presently being employed successfully at large complexes located in various zones of the republic. For example, in 1980, at 145 complexes, 992,000 young stock the average live weight of which was 378 kilograms, or 64 kilograms (20 percent) heavier than that sold by kolkhozes and sovkhoses, were fattened and sold to the state. The weight increases during fattening at the complexes were higher by 77 percent than at RSFSR sovkhoses, the feed expenditures per quintal of weight increase were lower by 31 percent and labor expenditures -- lower by a factor of 4.4.



An analysis of the work of those complexes and farms having different technologies testifies to the fact that the highest technical-economic indicators for beef production are realized when a complete production cycle is employed: from the raising of calves to the completion of young stock fattening. At these enterprises, individual elements are organizationally and technologically brought together in a single production process, the flow line nature and continuity of production operations are clearly expressed and highly skilled cadres of operators and departmental and enterprise leaders are formed. The organization of production, the correlating of the output volumes obtained with complete support for the animals in terms of feed and the high level of mechanized labor are making it possible to introduce successfully the latest scientific and engineering achievements at these enterprises, utilize more completely the genetic potential for meat productivity of the various strains of large-horned cattle and, on this basis, to lower feed consumption sharply and also labor expenditures per unit of output.

On the average, for 11 complexes carrying out a complete production cycle, 110,900 head of young stock were sold to the state, with the average live weight for one head at age 14-15 months being 429 kilograms. The average daily increase in weight during the raising and fattening period was 973 grams, with expenditures of 6 quintals of feed units and 3.6 man-hours per quintal of weight increase.

High and stable indicators were achieved at such complexes as Yumatovskiy in the Bashkirskaya ASSR, Voronovo in Moscow Oblast, Dubrovskiy in Chelyabinskaya Oblast and Valuyskiy in Belgorodskaya Oblast. However, it bears mentioning that the carrying out of a full production cycle, including the raising of calves and fattening of young stock, requires that the farms be supplied with ZTsM /whole milk substitute/, the production of which is still inadequate. A requirement also exists for facilities having a controlled microclimate for the maintenance of nursing calves. All of this is restraining the introduction of such a technology on an extensive scale.

In the RSFSR, the plans call for the further construction of 116 departments for the production of ZTsM, with the overall capability being approximately 150 tons daily, an increase in the production of specialized mixed feeds for calves and the construction and modernization of facilities and sites for the raising and fattening of young stock. This is making it possible to create a strong logistical base for expanding the scale of cattle fattening operations and for implementing progressive production technologies.

The majority of the large-scale specialized beef production farms operate on the basis of a technology which includes the maturing and fattening of young stock and the extensive use in feeding of malt and pulp residues, combined with coarse, succulent and concentrated feeds. An analysis of the work of such farms reveals that the young stock delivered for fattening are of low live weights -- 170-220 kilograms -- and that they are not prepared for prolonged fattening on rations which include large quantities of pulp or malt residue. Their appetites deteriorate rapidly, their weight increases decrease sharply and a large portion of the young stock, following completion of the fattening cycle, are turned over for slaughtering when their live weights are still low. Non-castrated bulls are especially sensitive to inferior pulp rations. Thus, at specialized farms in Belgorodskaya Oblast over the past 3 years, the degree of technological rejections amounted to 18.3 percent of the average annual number of cattle assigned for fattening, in Tambovskaya Oblast -- 20.7 and in Voronezhskaya Oblast -- 14.8.

Meanwhile, as our studies and the experience of a number of farms have shown, if a young light-weight head of cattle was assigned in advance to maturing involving the use of rations consisting of silage, haylage and hay and in the summer -- fodder and a small amount of concentrates, it will then be possible to raise its weight to 280-320 kilograms and thereafter to transfer it over to intensive fattening on rations containing pulp residue and protein-balanced mineral substances and vitamins. Such young stock furnish high weight increases, they utilize the feed very well and they attain a weight of 500 kilograms by the end of the fattening period.

On those farms where a correct understanding is held regarding the importance of maturing young stock, as a necessary stage for preparing the cattle for fattening, fine results are achieved. Thus the majority of sovkhos complexes and inter-farm associations in Penzenskaya Oblast, by clearly differentiating between maturing and fattening, brought their cattle to live weights in excess of 400 kilograms prior to the end of the fattening regimes during the past few years. Last year the specialized farms Rossiya, Vertunovskiy and Rodnikovskiy sold cattle at an average weight of 412-417 kilograms; the Kirsanov Association in Tambovskaya Oblast -- 416 kilograms; Timashevskiy, Kanevskiy and Ust'-Labinskiy Rayons in Krasnodarskiy Kray -- 408-430 kilograms. The Kirovskiy Inter-Farm Complex in Stavropol'skiy Kray, following the maturing and fattening of young stock on silage and green and coarse feed combined with concentrates, removed 5,000 head of young stock from fattening at an average weight of 416 kilograms. The feed expenditures per quintal of weight increase amounted to 9.4 quintals of feed units and 9.2 man-hours.

In order for these two initial periods in the production cycle to be mastered successfully, specialized farms or farms for the maturing and fattening of young stock, together with an appropriate feed base, must be created, or separate brigades having permanent teams for tending the elements should be established at the large fattening enterprises. We cannot tolerate a situation, such as is taking place on many farms, wherein a brigade or team simultaneously service cattle undergoing maturing and fattening regimes.

The experience of Penzenskaya Oblast, the Mtsensk Inter-Farm Complex in Orlovskaya Oblast and especially Cherkasskaya Oblast in the Ukraine, where the maturing work has for all practical purposes been established as an independent department and merged with the final fattening of the cattle into a single production process, convincingly reveals its high effectiveness. The efficient carrying out of the technology prior to the sale of the output serves to guarantee success.

The recommendations for the maturing and fattening technology were developed by the scientific-research institutes jointly with Skotoprom /Cattle Industry/ specialists and they were approved by the Scientific-Technical Council of the RSFSR MSKh /Ministry of Agriculture/.

In recent years, in addition to cattle fattening carried out in facilities of the closed type, fattening at various types of sites has entered into widespread use. This type of organization of fattening work makes it possible to expand the scale, regulate the technology, mechanize the labor involved and achieve a high level of productivity. During the next four years, the plans call for the construction of new fattening sites for 635,000 cattle in the RSFSR.

As borne out by experience and scientific studies conducted in our country and abroad, the fattening technology, the systems for maintaining cattle at sites and their space-planning solutions must be coordinated in a very strict manner with the natural-economic conditions by zones and regions of the country. Moreover the unfavorable seasons of the year must be taken into account so as to prevent overexpenditures of feed for the purpose of achieving weight increases.

Based upon this, we believe that the most promising fattening sites are those which are combined with simplified facilities that are used both as rest areas for the animals and also as shelters during inclement weather. Moreover, the resting areas for the animals, at facilities and at sites, must be dry and warm. Small piles and mounds formed from dirt, farmyard manure and straw have proven their worth at sites; deep straw bedding or boxes are being employed in the facilities.

Firm covers must be provided for the feeding troughs and watering bowls. The watering bowls must be capable of heating the water to 14-18° Centigrade.

Studies carried out during the past few years on the effectiveness of fattening young stock at various types of sites, with combined maintenance of the animals at sites and in facilities during different seasons of the year, have revealed that it is possible to carry out fattening operations successfully at semi-enclosed fattening sites that are connected up to simplified facilities under the same roof. Such facility-sites successfully underwent production testing at the Mikheykovskiy Sovkhoz in Smolenskaya Oblast and they appear to hold great promise for regions of the nonchernozem zone. They can be used both as individual buildings of industrial complexes and as adaptation facilities for young stock arriving during the autumn and winter months.

The further development of animal husbandry and growth in the production of beef are inseparably associated with development of the feed base and increased feed production.

But in addition to increasing the production of feed, equal importance is attached to improving its quality and the effectiveness of its use, especially coarse, succulent and green feed as well as the waste products of industry.

The conversion of beef production over to an industrial basis and the intensification of cattle raising and fattening operations are accompanied by a considerable increase in expenditures for concentrated feed. However, such feed must be consumed in a more judicious and economic manner and only in a mixture with other feeds. The proportion of this feed should be lowered to the maximum possible degree by replacing it with less expensive feeds. Unfortunately, a sharp reduction has recently taken place in both the absolute and relative proportion of coarse, succulent and green feeds being included in the rations for cattle undergoing fattening.

When developing feeding systems, it should always be remembered that large-horned cattle are able to convert plant and other types of feed into meat more completely. Moreover, owing to the activity of microorganisms in the rumen, ruminant animals are able to utilize lower quality protein and to supply up to 30 percent of the requirements for such protein by means of synthetic non-protein nitrogenous substances (carbamide and others).



When raising and fattening cattle, it is possible to lower the proportion of concentrates, with no substantial reduction in the weight increases of the animals, and to improve the use of feeds, provided an improvement is realized in the quality of the coarse, succulent and green feed and an increase achieved in the amount of hay, silage and haylage contained in the cattle rations; to employ a system of differentiated feeding by periods and phases of the production cycle; to feed the cattle full-value feed mixtures, grass meal, cuttings and grass briquettes; to make extensive use in the cattle feeding operations of protein-mineral and vitamin additives and biologically active substances; to subject straw and other coarse low-value or low quality feeds to mechanical and chemical treatment; to make more extensive use of natural and improved pastures, especially for the pasturing of young stock during the period devoted to their maturing and preparation for fattening.

Studies have shown that the use of low quality silage leads not only to a reduction in the weight increases in cattle but also to a simultaneous increase in the consumption of concentrated feed. During one such experiment, a group of young stock was fattened for a period of 90 days on 1st class grass silage and concentrates. The average daily increase in weight for each animal amounted to 821 grams, with 2.4 kilograms of concentrated feed being expended per kilogram of weight increase; sub-standard silage and the same concentrates were fed to another group. The increase in weight in these animals was only 616 grams and the expenditure of concentrated feed per kilogram of weight increase rose to 3.3 kilograms, or 37 percent more.

We achieved a high level of fattening effectiveness during experiments carried out at the Mikheykovskiy Sovkhoz in Smolenskaya Oblast; the young stock were fattened on rations consisting of silage, grass briquettes and from 15 to 35 percent concentrated feed. With such rations the weight increases amounted to 929-1090 grams and feed expenditures per kilogram of weight increase -- 7.9-8.9 feed units. By the end of October, the young bulls had achieved a live weight of more than 450 kilograms.

Fine results are being obtained from the use of straw treated with alkalis and ammonia water, when employed in complete ration feed mixtures, where it occupies from 40 to 60 percent of the materials by weight. The feeding of granules made from straw, grass meal and concentrates that have been enriched by urea and a mineral premix, in combination with a small quantity of silage in the winter and grass in the summer, has made it possible to obtain daily weight increases of 720 grams during maturing and 1000-1250 grams during fattening operations.

In recent years, less use has been made, in the absence of sufficient basis, of pasturing as a means for the maturing and fattening of cattle. The proportion of pasture feed in the rations for young stock at kolkhozes and sovkhoses in the RSFSR has fallen from 24 percent in 1966 to 14.6 percent in 1980. Greater attention must obviously be given to raising the productivity of natural pastures, creating highly productive natural pastures and to organizing their proper use. Such a system of livestock feeding and maintenance will make it possible to realize considerable economies in the use of coarse, succulent and concentrated feeds. Indeed the kolkhozes and sovkhoses in the RSFSR have at their disposal roughly 60 million hectares of natural pasture land and 25 million hectares of haying land and more rational use must be made of these resources.

In conclusion, it is appropriate to examine the problem of output losses that occur at many specialized enterprises for the fattening of cattle and also at kolkhozes and sovkhoses.

Losses in meat products occur during the production process -- technological rejects and cattle losses during fattening -- and also during the course of selling the animals for meat purposes.

Over the past 3 years, the technological rejects of large-horned cattle at Skotoprom /Cattle Industry/ sovkhoses have amounted to approximately 12.8 percent of the overall number of animals being assigned for fattening. This results in considerable output losses and causes great economic harm.

The premature removal of animals from a fattening regime owing to a violation of the cattle maintenance technology, poor feeding of the animals or maintenance of the animals in excessively large groups, in which case an increase takes place in the number of stress situations, all tend to lower the weight increases and increase the number of injured animals. Observations have shown that frequent regroupings of young bulls lead to a reduction in weight increases during fattening of from 1188-1226 to 815-857 grams, or by 30 percent.

Many farms lack corrals for accepting the cattle, unloading sites, cattle runs, sections and pens (cages) for sorting and grading the animals and for their veterinary-preventive treatment and no attempt is being made to accustom the animals to a definite regime for feeding and maintenance. At large enterprises, all of these seemingly unimportant considerations are in fact of considerable importance and require constant attention and efficient fulfillment of the technological requirements. Great losses in products are still taking place during the loading and transporting processes and also during the pre-slaughtering maintenance of the animals in the corrals of meat combines. The periods for the pre-slaughtering of the animals must be curtailed sharply and the responsibility of the meat combines for the timely acceptance and processing of the cattle must be raised.

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## LIVESTOCK

### ARMENIAN LIVESTOCK CONFERENCE OUTLINES GOALS

Yerevan KOMMUNIST in Russian 20 Mar 82 pp 1,2

[Article: "Providing For Increased Production of Animal Husbandry Products"]

[Text] The Central Committee of the Communist Party of Armenia held a conference on the key problems in the development of animal husbandry under the Eleventh Five-Year Plan. Participating in it were first secretaries of party raykoms, managers of agricultural ministries and departments, chairmen of ispolkoms and rayon soviets of peoples' deputies, and chiefs of agricultural administrations.

Speaking at the conference was first secretary of the Central Committee of the Communist Party of Armenia, K. S. Demirchyan.

Comrade K. S. Demirchyan noted that while carrying out the party agrarian policy which was developed in the modern stage and implementing the decisions of the 26th CPSU Congress the Communist Party of Armenia and the plenums of the Central Committee of the Communist Party of Armenia devoted to questions of further development of agriculture in the republic agricultural workers under the leadership of party organizations have achieved considerable success in increasing the production and sales to the state of agricultural products. Appreciable results have been achieved in animal husbandry. The republic annually fulfills and overfulfills the plans for the procurement of animal husbandry products. These successes were largely brought about by the purposive work that has been done in recent years to create a stable feed base.

At the same time not all farms and rayons of the republic are utilizing feed efficiently or taking advantage of other important factors in the development of animal husbandry. This is shown by the fact, for example, that during the past months of this year milk production and the milk yield per one cow has not increased significantly as compared to the same period of last year. If one takes into account the expected return from the feeds that have been used, calculations show that it would have been possible to produce 20,000-25,000 tons more milk during this period. From this standpoint extremely unsatisfactory work is being done in Tumanyanskiy, Kalininskiy, imeni Kamo, Kranoselskiy, Aragatskiy, Aparanskiy, Amasiyskiy, Shamshadinskiy and a number of other rayons. It is not permissible for them to fall behind other rayons with developed animal husbandry--Stepanavanskiy, Kalininskiy and others.

Comrade K. S. Demirchyan emphasized that among the causes for the considerable overexpenditure of feeds is their inefficient utilization--unsatisfactory work on the part of the feed shop and feed kitchen, and the low level of preparation and utilization of feeds on many farms. During the past two months the republic has processed only 9 percent of the feeds that were utilized and 29 percent of the straw. In a number of rayons the feed kitchen did not process a single ton of feeds in February. When one adds to this fact that many places do not have proper control over the quality and the balance of the feed ration, the picture becomes complete. According to laboratory data, a considerable proportion of the feeds accumulated in the republic are of poor quality. Nor is the ministry of procurements taking effective measures to ensure high quality of mixed feeds. The farms of the republic are not introducing the flowline-shop system of milk production extensively enough.

One of the major causes for the low rates of increase in the production of animal husbandry products on the kolkhozes and sovkhozes is the slow increase in the number of cows. Moreover, in a number of rayons (Vardenisskiy, Amasiyskiy, Aparanskiy, Spitakskiy) in recent months the number of cows has decreased. The number of cows has decreased significantly on the farms of Azizbekovskiy, Aparanskiy, Aragatskiy, Gorisskiy, Spitakskiy, Stepanavanskiy and Tumanyanskiy rayons.

No consistent, planned work is being done to avoid diseases of the animals, particularly brucellosis and tuberculosis. Hence there are losses from forced slaughtering of the livestock. The proper attention is not being devoted to reproduction of the herd or reduction of barrenness of the calving cows. State animal husbandry complexes and large mechanized farms still play an insignificant role in increasing the number of head of cows and producing products. The level of the zootechnical and veterinary services is also low.

Comrade K. S. Demirchyan drew the attention of those present to the fact that the farms are not fully utilizing the reserves and possibilities for increasing the production and procurements of meat. A number of rayons do not devote the proper attention to intensive fattening of the animals. The average live weight of the large horned cattle that are sold to the state is still low (Azizbekovskiy, Gugarkskiy, Martuninskiy, Talinskiy, Yekhegnadzorskiy, Noyemberyanskiy, Idzhevan-skiy and other rayons). In many places people are indifferent to the utilization of such an important reserve for increasing the state meat resources as reducing intrafarm expenditures. The possibilities of subsidiary farms for increasing meat production are also being utilized unsatisfactorily.

Comrade K. S. Demirchyan said that the Central Committee of the Communist Party of Armenia has set a task for the party raykoms, the ispolkoms of the rayon soviets, agricultural ministries and departments: guided by the decisions of the 26th CPSU Congress and the theoretical and practical conclusions contained in Leonid Il'ich Brezhnev's speech at the Congress, and also in his speech at the 17th Congress of USSR Trade Unions, to develop an entire complex of organizational-technical and mass political measures so as to achieve the goals envisioned by the five-year plan for the development of agriculture and to unwaveringly fulfill the taut plans of 1982 with the strictness ensurance of regularity of procurements of products, especially meat, throughout the entire year.



Instructions were given at the conference for each rayon and each farm to draw up a concrete program for increasing the number of cows and considerably increasing their proportion in the republic herd. It is necessary to devote special attention to reducing barrenness of cows to a minimum through improving artificial insemination. In this connection the party raykoms, the ispolkoms of the rayon soviets and the agricultural ministries and departments were instructed to introduce on the farms within two months the new calendar method of artificial insemination and treatment of barren cows.

It is also extremely necessary to organize the reproduction of the public herd correctly. The conference set the following tasks: out of every 100 cows each farm is to select and raise a minimum of 25 non-calving young cows. Decisive measures should also be taken for complete elimination of brucellosis and tuberculosis among the animals. The ministries of agriculture and the meat and dairy industry were instructed to organize in the shortest possible amount of time isolation and daily slaughter of diseased animals.

All kolkhozes and sovkhoses must organize intensive feeding and raising of livestock, provide for increasing their weight and make sure that well-fed animals with a high weight are sold to the state in a planned way.

It is necessary to radically improve the level of the zootechnical service, to concentrate the efforts of specialists who are carrying out production on a scientific basis, preventing diseases of animals, reducing intrafarm expenditures, and extensively introducing advanced methods and forms of work into practice. It is important to efficiently utilize the capacities of complexes and large specialized farms and also the possibilities of subsidiary farms of kolkhoz and sovkhos workers and employees in increasing state resources of animal husbandry products.

Serious demands were placed on the Armptitseprom and Armzhivprom administrations, who are obliged to undertake effective measures for complete utilization of the production capacities of the farms and factories, efficient expenditure of the feeds that are allotted and considerable growth of production.

At the conference especially strong emphasis was placed on the need to increase the responsibility of personnel for the matters entrusted to them and to establish in all production sections the proper degree of organization and party and state policy, to create an atmosphere of intolerance of slow and slipshod workers, and to increase the struggle against inefficiency and laziness, extravagance and abuses.

Instructions were given to the effect that in the next few days there were to be meetings of the rayon party and management aktivs where in a businesslike atmosphere they ought to critically analyze the condition of animal husbandry and earmark measures and ways of improving it and sharply increasing the production of animal husbandry products.

In conclusion, Comrade K. S. Demirchyan expressed his confidence that party, soviet, agricultural, trade union and komsomol agencies and organizations of the republic would spare no efforts or energy for successfully completing the wintering of the livestock, overcoming the shortcomings in the branch, and

unwaveringly implementing the decisions of the 26th CPSU Congress and the 27th Congress of the Communist Party of Armenia concerning the advancement of animal husbandry.

Participating in the work of the conference were Comrades B. Ye. Sarkisov, G. N. Andreyev, G. M. Voskanyan, K. A. Gambaryan, K. L. Dallakyan, L. N. Nersesyan, M. O. Muradyan, V. A. Tur'yan, and deputy chairman of the Council of Ministers of the Armenian SSR A. M. Kirakosyan, V. M. Movsesyan and G. S. Sagoyan.

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KAZAKH LIVESTOCK OVERVIEW, AREAS FOR IMPROVEMENT INDICATED

Moscow ZHIVOTNOVODSTVO in Russian No 3, Mar 82 pp 4-7

/Article by A.K. Kusainov, candidate of agricultural sciences and deputy minister of agriculture for the Kazakh SSR: "New Goals for the Kazakhstan Livestock Breeders"/

[Text] Agricultural workers of Kazakhstan are persistently striving to complete the tasks assigned during the 26th CPSU Congress. For 1982, they have vowed to achieve further improvements in the culture of farming and in animal husbandry, to realize a stable increase in the production of grain, potatoes and vegetables, to satisfy completely the feed requirements of animal husbandry and to sell to the state 2.42 million tons of milk, 1.5 million tons of livestock and poultry, 128,100 tons of wool and no less than 2 billion eggs.

The republic's livestock breeders have performed well during the past few years. All branches of animal husbandry underwent noticeable development at the kolkhozes and sovkhoses and an increase took place in the number of agricultural animals. Over a period of 5 years and compared to the Ninth Five-Year Plan, the procurement volumes for milk increased by 11.5 percent, wool -- by 4.1, eggs -- by 48.7 and karakul pelts -- by 21.1 percent.

The successes achieved in animal husbandry are inseparably associated with strengthening the logistical base of agriculture and stable development of grain production. During the Tenth Five-Year Plan, the republic on four occasions supplied the granaries of the homeland with 1 billion poods of grain and during 1981 -- a year marked by very complicated climatic conditions -- it furnished more than 960 million poods.

On farms throughout the republic the feed base is being strengthened, the quality of the feed is being improved and the level of feed preparation is steadily being raised. In 1981, more than 17 million tons of hay were procured for the very first time and the quality of this hay was better than that of previous years. Four fifths of the feed checked was classified as being of 1st or 2d class. During the current wintering period, 3,100 feed preparation shops are in operation throughout the republic and they will produce almost 17 million tons of feed mixtures that will be ready to be fed to the animals.

Large-scale measures will be carried out during the current five-year plan aimed at increasing the production of forage grain, hay, haylage and green and succulent

feed on arable land, creating irrigated pasture and haying lands on the farms and watering large areas of pasture. The procurement and storage of feed using new technologies will be increased by several times. Large capital investments have been allocated for the development of the state mixed feed industry.

The principal task of our livestock breeders is a planned increase in the meat and dairy productivity of the animals. The farms in Kustanayskaya Oblast are coping successfully with this task. In 1980 the average weight of the cattle they supplied was 445 kilograms and in 1981 they sold a large quantity of cattle to the state at an average weight of 460 kilograms. In Alma-Atinskaya, Turgayskaya, Severo-Kazakhstanskaya, Kokchetavskaya, Taldy-Kurganskaya and Tselinogradskaya Oblasts, the average weight of cattle shipped for slaughtering was 405-429 kilograms and for the republic this indicator increased from 333 kilograms in 1976 to 407 kilograms in 1981.

These accomplishments were considerably higher on individual farms. Thus, in 1981 the Sovkhoz imeni XXIII S'yezda KPSS in Kustanayskaya Oblast shipped approximately 2,000 head of cattle to a meat combine at an average weight of 583 kilograms. The weight of one head of the delivered cattle, raised at the Karabalykskaya Oblast Agricultural Experimental Station in this same oblast was 550 kilograms.

A complex for the fattening of young large-horned cattle stock at the Sovkhoz imeni Gazeta PRAVDA in Ural'skaya Oblast has become a large-scale meat factory. Compared to the Ninth Five-Year Plan when the complex supplied the state with 4,200 tons of high quality beef, during the Tenth Five-Year Plan -- 7,500 tons. The average live weight for the animals was 505 kilograms, profit -- 5.6 million rubles and the profitability of beef production -- 80 percent.

The intensification of large-horned cattle raising and fattening throughout the republic has made it possible to ensure more evenly distributed cattle production and sales throughout the year. Moreover, the principal proportion of the meat output (in excess of 60 percent) is being produced by means of large-horned cattle.

The republic's party, soviet and agricultural organs are persistently striving to carry out the decisions handed down during the 9th Plenum of the Central Committee of the Communist Party of Kazakhstan (1978), with regard to the further development of animal husbandry. In particular, they are striving to improve the organization of pasturing and fattening for the herds such that there will not be one farm that delivers an animal weighing less than 400 kilograms. At the same time, a successful solution is being obtained for still another problem raised during the plenum: that of increasing the number of large-horned cattle at each farm engaged in breeding them by a minimum of 400-500 head.

At the same time, it must be acknowledged that as yet insufficient use is being made of the reserves that are available for increasing beef production. Cattle breeding operations are being carried out on a number of farms using extensive methods, the expenditures for feed, labor and resources are high per unit of output and production profitability is low. The process of creating a specialized meat branch is proceeding very slowly. For example, in Tselinogradskaya Oblast, where there are many beef cattle, only two specialized meat sovkhoses have been created. We believe that a rapid solution for this problem will serve to promote the accelerated development of beef cattle husbandry.

In connection with the intensification of cattle husbandry operations, a great role is played by spetskhozes /specialized farms/ for the maturing and fattening of young large-horned cattle stock, with these farms cooperating with 1,235 kolkhozes and sovkhozes. During the Tenth Five-Year Plan, the spetskhozes succeeded in obtaining an average daily weight increase per head of cattle of 488 grams and the average live weight increased from 365 kilograms in 1976 to 424 kilograms in 1981.

The heaviest cattle are being supplied to the state by spetskhozes in Tselinogradskaya Oblast -- 478 kilograms, Turgayskaya Oblast -- 458 and Taldy-Kurganskaya Oblast -- 439 kilograms. Each year the collective at the Merkenskiy Interrayon Specialized Farm Association in Dzhambul'skaya Oblast achieves high operational indicators. In 1981, an increase in live weight of 2,315 tons was achieved, the average daily increase reached 866 grams, a quintal of weight increase cost 85 rubles and 2.4 million rubles of profit were realized.

During the next few years, we plan to fatten all young large-horned cattle stock scheduled to be sold for meat purposes mainly at spetskhozes.

One of the most important sources for raising the meat productivity of animals is that of industrial crossings of dairy and dairy-beef cattle with bulls of the best early-maturing strains. Computations have shown that from 15 to 20 percent of the cows and heifers at any commodity farm can be used for this purpose without causing any harm to maintenance of the dairy herd. At the Vostochnyy Sovkhoz in Kokchetav'skaya Oblast, hybrids obtained from crossing the Kazakh Belogolovaya cattle with Charolais bulls attain a live weight of 495 kilograms at 18-19 months of age, with bulls of the Kianskaya strain -- 451 and with Herefords -- 435 kilograms; whereas with bulls of the same age of the Kazakh Belogolovaya strain -- 395 kilograms. A quintal of weight increase in hybrids obtained from crossings with Charolais bulls is 19 percent, with bulls of the Kianskaya strain -- 13 percent and with Herefords -- 5 percent cheaper. Or here is still another example. First generation hybrids obtained from crossings of Red Steppe cows with bulls of the Hereford strain reached a weight of 455 kilograms by the age of 20 months, whereas when use was made of the Red Steppe strain -- only 390 kilograms. Experience has shown that May and June are the best months for carrying out such matings. In those areas where the feed base is weak and sufficient facilities are not available for the brood stock, the seasonal calvings should be planned for the beginning of the pasture period and in such instances the matings can be carried out during the June-to-August period.

In our opinion, the principal types of commodity farms are as follows:

...reproduction farms, the task of which is to reproduce and raise calves until they are 7-8 months of age, while making maximum use of seasonal pastures;

...specialized farms and interfarm associations for the maturing and intensive fattening of calves obtained from reproduction farms following their weaning. Such farms must have a strong feed base that is based upon internally produced feed.

During the next few years, the workers in dairy cattle husbandry will be confronted by complicated and responsible tasks. During the Eleventh Five-Year Plan, the milk yield per cow must be raised to 2,400-2,500 kilograms and in regions of developed dairy cattle husbandry -- to 3,500 kilograms. This indicator was high last year



in Alma-Atinskaya Oblast, where the farms in Enbekshikazakhskiy, Kaskelenskiy and Talgarskiy Rayons obtained from 2,980 to 3,140 kilograms of milk from their cows.

Leading farms are achieving success after having organized a program to obtain raised milk yields from first heifers in controlled farmyards. The Mamlyutskiy Breeding Plant in Severo-Kazakhstanskaya Oblast, in following this program, obtained an average of 3,212 kilograms of milk from first heifers during 305 days of lactation and an experimental farm of SevNIIZh /Northern Scientific Research Institute of Livestock Breeding/ -- 3,000 kg. At the present time, there are 125 controlled farmyards in operation in this oblast, with raised milk yields being obtained from 21,000 first heifers.

During the past few years, throughout the republic as a whole, the quality of the milk has improved, its purity has been raised and the amount of refrigerated milk has been increased. Fine output is being obtained from farms in Alma-Atinskaya, Vostochno-Kazakhstanskaya and a number of other oblasts. There are dozens of farms where milk production is economically profitable. At the Kolkhoz imeni Lenin in Shemonakhinskiy Rayon in Vostochno-Kazakhstanskaya Oblast, the production cost for a quintal of milk did not exceed 16 rubles throughout the entire Tenth Five-Year Plan and at the Order of Lenin Alma-Atinskiy Sovkhoz in Alma-Atinskaya Oblast in 1981 profit of 1.2 million rubles was realized from the sale of milk, with the profitability level being 70 percent.

A further increase in the production of animal husbandry products is greatly dependent upon organizational improvements being carried out with regard to reproduction of the herd. On the average for the republic as a whole, only 69-71 calves are presently being obtained from 100 cows annually. This indicator is higher on farms in 40 rayons -- 83 calves or more. Ten percent of the republic's farms are obtaining more than 90 calves per 100 cows and at the Naberezhnyy Breeding Sovkhoz in Kustanayskaya Oblast, the Sovkhoz imeni Lenin in Semipalatinskaya Oblast, the Kolkhoz imeni XXII S'yezda KPSS in Dzhambul'skaya Oblast, the Kolkhoz imeni Tel'man in Pavlodarskaya Oblast and on many other farms -- 100 or more calves.

The necessary measures are presently being undertaken to improve the reproduction work. A flow-line-departmental system of reproduction is being introduced and fine results have already been realized in those areas where this system has been mastered. Compared to 1980, 62,000 more calves were obtained during 1981. Of this number, the principal increase came from farms in Vostochno-Kazakhstanskaya, Kokchetavskaya, Alma-Atinskaya, Kustanayskaya, Pavlodarskaya, Severo-Kazakhstanskaya, Turgayskaya and Tselinogradskaya Oblasts. The majority of the farms in these oblasts had introduced into operations elements of the flow-line-departmental system. Meanwhile, in Karagandinskaya, Dzhezkazganskaya, Semipalatinskaya and Ural'skaya Oblasts, the calf yield per 100 cows continues to remain low.

Within the reproduction system, great importance is being attached to the specialized raising of replacement young stock. Specialized farms for 3,000-6,000 head of young stock, such as the Kuybyshevskiy and Chistovskiy Sovkhozes in Severo-Kazakhstanskaya Oblast and the Novoishimskiy and Pervomayskiy Sovkhozes in Tselinogradskaya Oblast are considered to be most promising. Here the heifers are mated when they are 17-18 months of age and the age of their first calving is

26-27 months and the productivity during the first lactation exceeds the productivity of heifers raised on commodity farms by 400-500 kilograms of milk.

The planned conversion of animal husbandry over to an industrial basis commenced in our republic beginning with the Ninth Five-Year Plan. We already have in operation large complexes for the production of milk, beef, pork, eggs, mutton and wool and also for the raising of replacement young stock. The construction of animal husbandry complexes on an extensive scale is planned for the current five-year plan.

The importance and role of breeding work is increasing. At the present time, practically all agricultural animals in the republic can be considered as being pedigree stock. Compared to the Ninth Five-Year Plan, the number of pure-bred large-horned cattle increased twofold during the Tenth Five-Year Plan. There are 63 breeding plants, 107 breeding sovkhoses and 403 breeding farms, which during the Tenth Five-Year Plan raised and sold 305,000 head of pedigree and improved large-horned cattle, 1.82 million sheep, 334,000 swine and more than 7,000 horses.

Strains which have been regionalized in the republic possess a good potential. Approximately 4,700 kilograms of milk were obtained per cow from cows of the Alatauskaya strain at the Kamenskiy Breeding Plant in Alma-Atinskaya Oblast, 4,200 kilograms of milk were obtained at the Chimkentskaya Oblast Agricultural Experimental Station from Alatauskaya cows, up to 3,500 kilograms of milk were obtained from cows of the Simmental'skaya strain at the Kolkhoz imeni Lenin in Vostochno-Kazakhstanskaya Oblast and 3,300 kilograms of milk were obtained from cows of the Red Steppe strain at the breeding farms Mamlyutskiy in Severo-Kazakhstanskaya Oblast and Karagandinskiy in Karagandinskaya Oblast. Cows of the Brown Latvian strain are furnishing 3,500 kilograms at the Breeding Farm imeni Michurin in Kustanayskaya Oblast. Highly valuable pedigree cattle of the Kazakh Belogolovaya strain are being raised at the breeding plants Chapayevskiy in Ural'skaya Oblast and Prostornenskiy in Dzhezkazganskaya Oblast and at the breeding sovkhoses Pokrovskiy in Kustanayskaya Oblast and Skotovod in Semipalatinskaya Oblast. During the past five-year plan, nine highly productive lines of the Kazakh Belogolovaya strain were approved.

The state breeding plans and breeding sovkhoses are confronted with the task of improving existing strains and raising outstanding pedigree animals. Proper attention is being given to acquiring and making maximum use of imported bulls. First heifers obtained from the crossing of Alatauskaya cows with bulls of the American bred Shvitskaya strain surpass others of their same age in milk productivity by 570-690 kilograms and by 0.2 percent in fat content in the milk and they have a better form of exchange and speed of milk delivery. Fine results are being obtained from the use of Ayrshirskaya highly productive bulls on commodity farms. In the breeding zone for red strains, the Anglerskaya and Krasnaya Datskaya strains have proven to be very useful. The use of bulls of the Golshtino-Frizskaya strain, for crossings with cows of the Aulieatinskaya and Black Variegated strains appears to be very promising with regard to raising the lactescence, live weight and adaptability to the modern technology.

The specialists of state breeding stations have mastered the technology for the artificial insemination of cows, using sperm preserved in a deep-frozen state. The task now is one of converting over to the artificial insemination of all brood stock for large-horned cattle and sheep, in all areas and on an urgent basis, using the sperm of improvement-bulls. We will employ this reliable means for mass breeding on an urgent basis.

Owing to the efforts of veterinary workers, many diseases dangerous to both man and animals have been eliminated. Nevertheless the farms are sustaining great losses caused by the cow disease mastitis. There are many reasons for this, with the chief one being the incorrect and untimely steaming up of the cows and violations of the cow milking rules.

A great deal has been accomplished throughout the republic in connection with improving the living and working conditions for the livestock breeders, the majority of which are women. The organization of work on a double-shift basis has been introduced into operations at many farms. The conversion over to a five-day work week has been carried out. At a majority of the sovkhoses, concern is being displayed for supplying the workers with hot food, making food and industrial goods available to them on the farms, providing transport for those who live at great distances from their work, for the training of youth at VUZ's and technical schools with no interruption in production operations and for the construction of housing.

Unfortunately, the working day of the zooveterinary specialists has not been regulated in all areas. They are required to spend a great amount of time attending all types of conferences and they also have to prepare various summaries and reports. The personnel are not happy with this and it adversely affects their work.

The cattle wintering period is coming to a close. The fulfillment of the plans for the current year and for the entire five-year plan is greatly dependent upon how successfully we carry out this wintering program. At the sovkhoses and kolkhoses, efforts are underway aimed at ensuring that each animal husbandry farm makes full use of the potential and reserves that are available for increasing the production and sale to the state of meat, milk and other products.

The slogan of the Kazakh livestock breeders: "To furnish more output with less expenditures of labor and feed!" is being carried out successfully.

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## AGRO-ECONOMICS AND ORGANIZATION

### ORGANIZATIONAL PROBLEMS OF FRUIT, VEGETABLE PROCESSING INDUSTRY

Moscow IZVESTIYA in Russian 24 Mar 82 p 2

[Article by V. Romanyuk, economic observer of IZVESTIYA, Michurinsk-Volgograd-Moscow: "Unprofitable Stewed Fruit"]

[Text] In the Central Union of Consumer Cooperatives almost 400 enterprises are engaged in fruit and vegetable processing. They annually supply 1.5 billion cans of fruits and vegetables--one-fifth of the all-Union stock--for the table of the Soviet people.

Experience shows that comparatively small cooperative enterprises, which replenish the country's food resources with such products as stewed fruits, fruit pastes, preserves, tomatoes and all kinds of pickled and marinated products, often operate more efficiently than giant plants. Being a seemingly intermediary link between agricultural production and state industry, consumer cooperatives are close to places of production and better cover the heart of the country, which the procurement organizations of the Ministry of Fruit and Vegetable Industry do not always reach. As yet, however, cooperatives do not utilize all their capabilities.

Unfortunately, in the last few years the assortment of juices, stewed fruits, preserves and jams has not only failed to expand, but has even decreased. Only a few years ago in any rural store and in the city it was possible to buy stewed fruits--apricots, cherries, cranberries, strawberries, raspberries, grapes and quinces--bilberry, blueberry, honeysuckle, red and black currant and black-fruit mountain ash preserves, apricot and gooseberry jams, cherry-plum and pear pastes, viburnum, cranberries, dogwood and cowberries grated with sugar, marinated pears and apples, cowberry and gooseberry juices and beverages made of thornapple and dog rose. Today, however, many of these items are even forgotten.

V. Kozharov, chief of the RSFSR Main Administration for Cooperative Industry, spread before me piles of colorful labels, so to speak, documentary evidence of the fact that cooperatives produce all these products. But what are the volumes? Vladimir Il'ich had difficulty answering this question. Reporting is consolidated according to types of products--stewed fruits, preserves, jams, fruit pastes, juices and beverages. However, statistics indicates that, on the average, the all-Union output of many types of preserves amounts to... several spoons per person annually.



It turns out that about 100 out of the 124 types of canned fruits and vegetables produced at the enterprises of the Central Union of Consumer Cooperatives are unprofitable. For example, the production of 1 million standard tomato paste cans results in 150,000 rubles of losses and the same amount of fruit paste, 90,000 rubles, of marinated tomatoes, 20,000 rubles and of apple juice, 10,000 rubles. This metamorphosis is almost imperceptible to the eye. Nevertheless, it clearly and energetically affects the assortment. Instead of unprofitable tomato paste, fruit pastes, juices, salads and stuffed cabbage rolls, wines, nonalcoholic beverages and some types of confectionery products are produced in ever greater volumes. In 1980 the enterprises of the same RSFSR Union of Consumer Cooperatives incurred 6 million rubles of losses on the output of canned fruits. On the other hand, the production of "profitable" products, mainly wine, yielded a profit of 6.5 million rubles.

What an absurdity! A product necessary on every table and not requiring unreasonable production expenditures is unprofitable. Why? We will not discuss here the vicissitudes of the fate of the state canning industry, which experiences great difficulties with raw materials. But, after all cooperatives have an advantage over state enterprises, because they can buy surpluses of agricultural products from the population at agreed prices and sell products at commission prices. However, cooperative workers, to put it mildly, do not fully utilize such an opportunity. Throughout the Central Union of Consumer Cooperatives the proportion of such output is less than 7 percent.

What are the problems here? First of all, the considerable restrictions in the purchase of products at agreed and sale--commission--prices. The point is that, when components and auxiliary materials allocated from state stocks are used, cooperative workers are deprived of such a right, while sale at state retail prices knowingly incurs some losses. According to G. Amerikov, deputy chief of the Main Administration of Food Industry, the removal of restrictions in the sale of products at commission prices would make it possible to increase the purchases of raw materials and the output of canned fruits and vegetables by 150 to 180 million standard cans in the very near future.

I had occasion to become acquainted with the activity of consumer cooperatives in the city of Michurinsk in Tambovskaya Oblast. This is what struck my eyes: In the birthplace of Ivan Vladimirovich Michurin fruit and vegetable processing enterprises experience an acute shortage of raw materials. The assortment of the Michurinsk Experimental Canning Plant of the RSFSR Union of Consumer Cooperatives has up to 25 types of products. However, cranberries and honey are the main items that support the enterprise economy.

"We do not receive enough local raw materials," says A. Sal'nikov, director of the plant. "Every year we procure fewer and fewer berries and vegetables. We hardly make apple butter--there is nothing to make it with. In 1981 we concluded agreements with farms for 1,000 tons, but we received only 45 tons. On the whole, local raw materials comprise 15 to 20 percent. Cranberries grated with sugar gave one-half of the plan. A total of 1,450,000 standard cans of cranberries were produced and a profit of 167,000 rubles was obtained. For the first time in the sector the plant mastered the process of production of canned goods in polymer packaging. Incidentally, the same cranberries packaged in cans are unprofitable. Production expenditures increase sharply."



In the city there is another canning plant of an annual capacity of 30 million standard cans, which is subordinated to the Ministry of Fruit and Vegetable Industry. It produces canned fruits, vegetables and meat and halva. Owing to the shortage of raw materials, only two-thirds of the plant capacities are loaded. Last year alone 1.2 million standard cans were underdelivered as compared to the plan.

What about the local raw material base? It does not supply the rayon's processing enterprises. Not so long ago Michurinsk was the supplier of strawberries to many cities and even for export. Today these berries are brought here from other oblasts and even from abroad in the form of extract.

Together with A. Sal'nikov, director of the experimental canning plant, we visited the Sovkhoz imeni Michurin. The fruit combine of this farm in no way can be called a subsidiary production facility. This large modern complex can annually produce 150,000 decaliters of fruit and berry wine. Established for the purpose of processing nonstandard products, it has now become a large consumer not only of the products of the sovkhoz itself: It "gets hold of" 70 percent of the fruits and berries from outside. Wine plays a key role in the farm economy.

As we see, the interests of cooperative workers are in direct conflict with the economic interests of farms. However, we must not fail to also reproach cooperative workers, who search for raw materials without sufficient initiative and slowly develop their medium- and low-capacity production facilities in the heart of the country. The vacuum is filled with all kinds of shops and even with whole plants producing fortified wines and other "profitable" products.

"It is necessary to intensify processing in the localities," says M. Aganin, chief of the Main Administration for the Procurement, Processing and Sale of Plant Products. "We should not chase after giant enterprises, but establish capacities where there are raw materials. We have many plants, each of which has an annual capacity of 10 to 20 million standard cans. Raw materials have to be transported to them over a distance of 100 to 150 km, often on bad roads. Then 5 or 6 days pass before they are processed. At the same time, losses are inevitable. Instead of such enterprises it is apparently necessary to establish shops of an annual capacity of 500,000 to 3 million standard cans, which process products that do not have to be transported over long distances."

However, the local initiative of cooperative organizations needs technical equipment taking into consideration the specific nature of their production. Meanwhile, the path of cooperative workers into the heart of the country is complicated by the fact that equipment of the necessary capacity is not produced for the construction of small shops, which would process surpluses of raw materials available to the population. The Ministry of Machine Building for Light and Food Industry and Household Appliances follows the road of establishment of flow lines of a large productivity, but they in no way fit into the modest areas at the disposal of plants and separate shops of rayon cooperatives. For example, rolling machines are capable of processing 80 to 120 cans per minute, but machines capable of processing 20 to 30 cans are needed. Standard washing machines are designed for 6,000 cans per hour, whereas the need is for one-sixth of them. Finally, there are lines for the production of canned cucumbers capable of producing 5 to 8 tons of products per hour. However, under ordinary conditions the average plant of the Central Union of Consumer Cooperatives produces no more than 25 tons of such cans per month. It turns out that highly productive equipment is manufactured, but cooperative workers cannot use it.

The oversights allowed during the planning of the production of a number of articles also affect the results of activity of cooperative workers. For example, reporting in the canning industry is made in thousands of standard cans, which also determine all the norms of expenditure and the allocation of glass jars and material and technical resources. What is produced in barrels is not taken into account. Is it not more reasonable to transfer planning to tons and physical units? In the opinion of specialists, this would make it possible to more closely link the interests of producers with the interests of consumers. For example, public dining is interested in obtaining products not in small cans, but in barrels--at the worst, in 3-liter cans.

Horseradish, mustard, candied fruit, fruit and berry extracts and marinated and boiled mushrooms in barrels are not considered canned goods in the plan. The point is that, according to the existing methodology of accounting, products produced in hermetic containers by the method of thermal sterilization and, partially, by concentration are included in the volume of canned goods. Food products preserved by other methods (cold, drying, lactic fermentation and with preservatives) belong to other products and, therefore, are not planned or taken into account in standard cans.

Astrakhan' and Volgograd candied fruit was famous at one time. The Surovikino Canning Plant in Volgogradskaya Oblast annually produced up to 150 tons of candied fruit, but then its production dropped to 60 or 70 tons. In a number of rayons candied fruit was completely removed from the assortment. When I asked O. Glebov, deputy chairman of the Volgogradskaya Oblast Union of Consumer Cooperatives, about the new assortment, he was able to mention only a squash beverage. What about candied fruit? Now it is not produced here at all. Of course, this product is popular among the population, explains Oleg Andreyevich, but it requires great expenditures of manual labor. Watermelon peels have to be removed and cleaned manually. The process of pickling, soaking, cutting and boiling peels is long. Most importantly, previously it was considered a dry preserve in the plan. Now it is not. Thus production is curtailed.

In his speech at the 17th Congress of USSR Trade Unions Comrade L. I. Brezhnev stressed the need to sharply raise and solve problems connected with the utilization of all local capabilities for the processing of products. Cooperative workers have truly vast possibilities here. Today's consumer cooperatives represent a ramified network of multispecialization production facilities called upon to process all types of local raw materials. To produce more food products locally means to cross oneself off the list of consumers. Today it is a matter of seeing to it that the enterprises of consumer cooperatives can produce a wide assortment of food products for the needs of the rural population and increase not only the purchases of meat, fruits, berries and honey at agreed prices, but also of food bone, wool, flour, mushrooms, berries and other wild growing plants.

The processing link of the Central Union of Consumer Cooperatives should more actively affect producers of raw materials--cherries, berries, eggplants and a number of other popular products that have been transferred to the category of "little distributed" products. At the same time, as specialists believe, it is necessary to introduce an efficient system of differentiated surcharges for unprofitable products, as well as profit discounts on wines and beverages where the profit is

excessive. This will ensure an equal profitability of production of all types of articles. It is to be believed that then plentiful candied fruit, confitures, horseradish and mustard will appear on store counters.

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## AGRO-ECONOMICS AND ORGANIZATION

### OPERATION, POTENTIAL OF SUBSIDIARY ENTERPRISES DETAILED

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[Article by G. Shipit'ko, N. Voroshilov, N. Krivopustov, V. Gavrichkin, A. Lenskiy and V. Komov: "The Enterprise's Subsidiary Farm"]

[Text] "Many industrial enterprises, responding the the party's appeal, are now organizing subsidiary farms for improving the supply of food products for their collectives," noted Comrade L. I. Brezhnev at a meeting with the leaders of the Uzbek SSR.

In the speeches at the 17th Congress of USSR Trade Unions and at the festivities with the awarding of the Order of Lenin to the Uzbek SSR, Leonid Il'ich again emphasized the need to devote more attention to questions of developing and refining the comprehensive food program and considerably increasing the volumes of agricultural production in all regions of the country.

Subsidiary farms of industrial enterprises should also occupy their place in this most important statewide cause. An important support in increasing the production of products for the tables of the workers, they should enjoy all-around support from the soviets of peoples' deputies and management agencies.

The experience of many plants, mines, open pit mines and factories shows that subsidiary farms, with skillful, thrifty management, can produce a broad assortment of high-quality products for the workers and their families.

Today IZVESTIYA offers its readers a discussion on the establishment and daily practice of subsidiary farms which make a worthy contribution to solving the country's food problems.

Karagandaugol' Association

Its subsidiary farm, Shakhtinskoye, produces 260 tons of meat, 700 tons of milk, about 2 million eggs and 200 tons of fruits and vegetables a year.

The Karagandaugol' Association was one of the first in Karagandinskaya Oblast to create its own subsidiary enterprise. The miners named their first-born Shakhtinskoye. It began with the construction of hothouses. In them they raised vegetables and various kinds of greens for the miners' tables. Conceived as something small, during little more than ten years the farm has become a completely solid business. It now has a poultry farm, a hog farm, and a dairy has been created. The fruit orchard has spread out over several hectares.

The volume of production of products for the miners' tables is also impressive: 260 tons of meat, 700 tons of milk, about 2 million eggs and 200 tons of vegetables and fruits a year. And although it is still difficult for it to vie with specialized sovkhozes, there is still an advantage. And not only economic (the cost of products is one of the lowest in the oblast); it lies primarily in that the miners have a chance to obtain various kinds of additional products. And there is one more essential merit of their own farm: the products are always fresh, of high quality and can be obtained practically year around.

Even now Shakhtinskoye keeps more than 1,100 head of large-horned cattle, as many hogs and 35,000 hens. The association spent 3 million rubles on construction and improvement.

I visited this enterprise. On the outside there is little to distinguish it from any other virgin land sovkhoz, except for its proximity to the city. When chatting with its specialists it is easy to catch the predictable pride in their agricultural shop. Even by 1985 meat production here will increase 5-fold, milk production--2-fold, and egg production--2.5-fold. The proportion of Shakhtinskoye products in the supply for the miners will increase, and significantly. For instance, the demand for meat is being satisfied by almost one-third.

I became acquainted with the plans of the Karagandaugol' Association for the current five-year plan. They will organize another subsidiary farm--Gornyak. They have already allotted 3,400 hectares of virgin land for it and it will specialize in the production of beef. Even this year 1,000 head of young cattle will be sent here for fattening. The material and technical base is becoming significantly stronger: the fleet of agricultural machines will grow and it is intended to construct facilities to accommodate 36,000 hens. But the production capacities are to be increased not only through new construction. They are now reconstructing the former administrative building of the Naklonnaya mine which has stood empty for many years. Even this year it will house 60,000 broilers. This work is being done in the association with a great deal of interest and zeal, and they are striving to satisfy more fully the enterprise collective's need for meat and other products.

There are now 39 subsidiary farms of industrial enterprises in operation in Karagandinskaya Oblast. They have been assigned more than 160,000 hectares of agricultural land, of which 15,000 hectares are plowed land and 13,000 square meters are hothouses. Production volumes are also increasing. About 1,088 additional tons of meat, 1,135 tons of milk and about 600 tons of potatoes and vegetables are going to the workers' dining rooms.



In all of these undertakings there is one more advantage--the social one. The subsidiary farms help to bring into the production process those resources which cannot be applied and are not being employed at the large agricultural enterprises.

Many agricultural enterprises of the oblast are using land which was previously considered wasteland or unsuitable for farming. Thus tens of thousands of hectares of previously empty area have been put into agricultural circulation recently. Finally, the farms of the enterprise bring one more reserve into action--the labor reserve. For instance, the Semiz-Buga mine was closed because of output. It was economically disadvantageous to construct a new industrial enterprise in the village where there are about 100 buildings. It would have been necessary to ship in raw material from hundreds of kilometers away.

On the initiative of the local soviets they created an agricultural shop for the automotive transport enterprise. Two barns were constructed to accommodate 250 head each, and also a feed shop which provided enough for all of the livestock. And the people were quite willing to change their former occupation for animal husbandry. Pensioners also found work they could do. The residents did not have to move. Such a well-conceived solution to a complex social problem, which is always difficult, ended up in mutual advantage. Both for the people and for the enterprise which gained an opportunity to provide its workers' dining rooms with animal husbandry products.

The assistance of the local soviet agencies to the subsidiary farms of the enterprises has become especially appreciable lately. These issues are frequently raised at meetings of ispolkoms and sessions. This year the oblast will construct 24 animal husbandry facilities, sheep folds to accommodate 1,200 head, a rabbit complex, and the hothouse area will double. By the end of the five-year plan the return from the subsidiary farms of the enterprises will increase; in 1985 it is intended to produce almost 9,000 tons of meat, 7,000 tons of milk and 13,000 tons of vegetables and potatoes.

But even with the sharp increase in the production volume far from everything is going smoothly in the oblast with respect to solving the problem of full-value supply of food for the population. Among the reasons for this are those obstacles which retard the effectiveness of the operation of the agricultural shops of the enterprises. Sometimes it is necessary to deal with a mass of problems. The enterprise frequently experiences difficulties with construction materials and is searching for agricultural specialists. The problem of providing the subsidiary farms with mineral fertilizers and spare parts for agricultural machines is critical.

Much will still have to be done to increase the number of subsidiary farms as well. So far only every fourth industrial enterprise in the oblast has an appreciable addition to the menus in the workers' dining rooms. Among those that are dealing poorly with the development of subsidiary farm is the Karagandinskiy metallurgical combine. They have been trying to complete the construction of several hothouses for more than a decade here. Only two have been introduced, and with great difficulty, from which they receive 32,000 tons of cucumbers and tomatoes. But it is possible to have several times more. And this is only an insignificant part of those reserves which the combine has.

There is also another kind of problem in the oblast. The synthetic rubber plant is filled with desire to create its own farm, but the good intentions are frustrated by the lack of desire on the part of the USSR Ministry of the Chemical Industry to provide funds for this. Repeated requests to the ministry from plant managers and local authority agents have still not produced appreciable results. Such an approach on the part of individual departments and ministries to solving this most important national economic problem is alarming. Subsidiary farms are becoming more and more important each year for consistently supplying the population in the oblast with foodstuffs. To make a weighty contribution is not only the concern of the production collectives. They have a right to count on all-around assistance and support.

Kemerovskaya Oblast. Belovskaya GRES

This enterprise's fish nursery produces 7,000 tons of carp a year. Last year a total of 868 subsidiary farms were created in the oblast.

Industrial enterprises, construction and transportation organizations and various institutions in Kemerovskaya Oblast last year formed 868 subsidiary farms. They produced 31,500 tons of vegetables and 27,500 tons of potatoes. Animal husbandry is also developing rapidly.

The Maklakovs work in the fuel-transportation shop of the Belovskaya GRES. Aleksey Vasil'yevich is an electric welder and Antonina Fedorovna is a motor mechanic. They love their work and speak respectfully about their occupations. They live in a well-designed communal building. The Maklakovs are not ashamed of their earnings. And here appeared an additional and also reliable source of income. For winter they slaughtered two hogs each with a quintal of pure meat. Now they have something to take to their son and daughter when they go to visit. A couple of little pigs on fattening is valuable.

"It is a sure thing," states Antonina Fedorovna. "We don't intend, for instance, to trade in meat--we have enough for ourselves--but we can be crossed off the list of purchasers."

Many enterprises in Kemerovskaya Oblast are now fattening large-horned cattle and constructing facilities for hogs and poultry. Dairy herds are being formed. Those who live closer to the taiga are beginning to have apiaries and rabbit farms. The demand for land, naturally, has increased sharply. People want it to be allotted for feed, parcelled out for building or given to the citizens for gardens and collective orchards. But even in Siberia there is a limit to the land.

The sovkhoses around the Belovskaya GRES are strong and solid. Anything they want it added to some plan or another: sometimes land for hay fields, sometimes for pastures. They let them have arable land even without asking. The sections for planting potatoes extend over 30-50 kilometers. But the power engineering workers have their own rich land as well. The Inya River, blocked by a high dam, flows into an immense lake right near the villages. Used hot water is released into it, purified and enriched with oxygen. This prompted them to engage in fish propagation. The director of the GRES, Hero of Socialist Labor P. Druz' went to Kostroma himself for training. The first three fish ponds were placed in a drainage canal.

Last year an entire bay was equipped for a fish nursery and 700 tons of carp were received. Trout began to thrive in the rapids. White amur fish were also brought in.

Fish soup and fresh fish seem to be a usual sight in the workers' dining rooms. Semi-prepared products can be bought in the delicatessen. And when people sit by the lake with their fishing poles, summer or winter, there is only satisfaction: the fish are always biting very well. The nursery is considered to be a mutual concern and a mutual property. The fishery workers are paid bonuses on a common basis and they have their share of apartments, accommodations in children's institutions and other benefits. The fishery is staffed with intelligent fish breeding specialists.

In the village of Inskaya more than 500 families live in their own homes. The roosters have long been crowing in country harmony here. There are 150 housewives who keep them. There is a piglet, and more often two of them, in practically every yard. And for people like the Maklakovs, who live in five-story apartment buildings, the GRES found a place for a little animal husbandry settlement on the outskirts of the strips of land designated for industrial purposes. And it is a good place--dry and on the sunny side.

Their construction materials are almost free of charge. The builder takes ash from the industrial wastes, adds a very small amount of cement, mixes it with water and the mixture for flag block walls is ready.

I walked with the deputy chairman of the ispolkom of the village soviet, G. Lyukshina, along the long row of equally elegant little barns. The owners constructed them themselves, but according to a standard plan approved by the village soviet. One gets a sense of efficient, detailed organization in everything. The little animal husbandry village is lighted. It is a 20-minute walk to it from the village. If it is necessary to haul something in, there is no problem for the road is kept in good condition. A tractor has been allotted for removing the manure. Running water is brought in the summer. This gives rise to the idea of providing heat--there is an abundance of hot water at the station. The hog complex is broken down into individual sections.

"And not so long ago," stated Galina Mikhaylovna, "we took a head count and found there were 1,500 hogs alone. There will be more."

This confidence is justified. So far 300 families from the communal buildings have acquired and provided for piglets. Many of the barns that were constructed are still empty: as the Siberians say, they are waiting until spring to put "new settlers" in them. The list of builders is far from exhausted. As the Maklakovs say, people feel that the directors of the GRES and the village soviet have managed to attach social significance to what would seem to be a personal matter, they have not considered the additional task to be an excess burden, they support the economic endeavors of the workers, and, if it is necessary to unite their efforts, they act as organizers. Let us talk about feed again. There are more than a thousand plot owners in the gardening society. Of course the livestock receives more than just grass from this land. They have begun to plant more

potatoes and to procure hay. Many tall weeds are suitable for litter for young hogs. The housewife throws no table scraps away. We came to the mixed feeds store. Again everything was taking place smoothly and satisfactorily. The village soviet, through the housing administration and the street committees, accounted for everyone who had hogs and poultry and then distributed the feed fairly. Food from wastes from dining rooms, hospitals and the childrens' combine are also accounted for and utilized.

There are 12,760 residents in Inskaya. The private subsidiary farms produce about 450,000 liters of milk and 1,300 quintals of meat during the year. Add to this eggs, potatoes, vegetables and all kinds of preserved goods. There is also something left to share with others, and almost 2 tons of fresh fish are growing in the fish ponds every day. A significant addition to the village's food supply.

Fisheries are also being constructed at other electric power stations that have bodies of warm water, particularly in the south of the Kuznets basin. Authorized representatives came from there, and they not only looked at the fish ponds but also walked around the animal husbandry settlement. What could be better? A good thing will necessarily make itself known and cause one to think. And it is worth thinking about.

Kirovskaya Oblast. Plant imeni XX Patrs"yezd

The large horned cattle being fattened on their farms gain about a kilogram of weight daily, and the annual milk yield from each cow is more than 3,000 kilograms.

The subsidiary farm of the Kirovskaya Plant imeni XX Patrs"yezd has been in existence for a long time. It is developing dynamically, and the achievements of advanced practice in science are utilized here. There are now 2,100 hectares of land on our farm, including more than 700 hectares of plowed land, and our hayfields and pastures are fairly good. The subsidiary farm specializes in the production of meat, milk and early vegetables that are grown in greenhouses. All this serves as a good additional source of food products.

The main thing to which we are devoting our attention is better utilization of the land. To this end we annually apply a good deal of organic and mineral fertilizers to the soil and we have acquired the necessary complex of agricultural machinery, which makes it possible to perform all jobs promptly and well. As a result of improvement of agrotechnology and extensive application of modern mechanization we have increased the productivity of agricultural crops and strengthened the feed base. Under the Tenth Five-Year Plan we annually harvested an average of 19 quintals of grain, and last year when there was a drought the yield was 13.3 quintals of grain. We stored more than a thousand tons of silage for winter and prepared 70 tons of vitamin meal as well as a good deal of other kinds of feeds. All this makes it possible to increase the productivity of animal husbandry. Under the Tenth Five-Year Plan the subsidiary farm annually gave us 200 tons of meat and 500 tons of milk, and we received 65 tons of early vegetables from the greenhouse.

We now have about 400 head of large horned cattle on our farms, including 150 cows, and we annually fatten up to 700 hogs and keep more than 22,000 hens. We



achieve up to a kilogram of weight gain per day per head of large horned cattle on fattening, and last year each cow produced more than 3,000 liters of milk.

Further development of animal husbandry requires that special attention be paid to the feed base. Thus we annually utilize almost a thousand tons of food wastes which we gather from the plant dining rooms. Coarse feeds are prepared on the farms. All the straw is carefully crushed, steamed and flavored with grass meal, and nutritive yeasts and various supplements are added.

At one time we reconstructed existing animal husbandry facilities and introduced comprehensive mechanization, which made it possible to reduce to a minimum the amount of manual labor expended in cleaning the premises and distributing feed. With small expenditures of materials and funds we managed to expand the facilities to accommodate 100 more sows and 200 more cows, and we constructed a calf barn that will hold 100 head. The overall expenditures on the development of the subsidiary farm under the Tenth Five-Year Plan amounted to more than 700,000 rubles. But now we have an appreciable return: the production of food products is increasing rapidly. We are now beginning to reconstruct the facilities for fattening hogs so that they can accommodate 1,200 head, which will make it possible to increase pork production by 60 tons a year.

One must say that the subsidiary farm is a shop which is on equal footing with the shops of the main production. The trade union committee regularly sums up the results of competition and gives material and moral encouragement to the best workers of the "green shop." Our subsidiary farm has repeatedly been recognized as the best in the branch, and last year it was awarded a special certificate of the AUCCPU.

In order to increase the return from each hectare of land, this spring we intend to conduct liming of the soil on a large scale with the application of mineral fertilizers. Under the current five-year plan it is intended to construct new fattening facilities for 1,200 hogs, a large feed shop which will produce 30 tons a day, storage facilities for potatoes and vegetables, a garage and living facilities for the machine operators. Even this spring, as a result of recultivation, we intend to extend the amount of arable land by 300 hectares and obtain additional feed from it. We intend to increase the gathering of food wastes.

#### Turkmenneftestroy Trust

The agricultural section here will produce 12 kilograms of meat per worker this year, and in 1983--20 kilograms.

Low scattered clouds floated by, almost touching the peaks of the Great Balkhan, a lonely camel wandered in search of thistles, the free wind swept across the steppe surrounded by mountains, and the babies' breath formed reddish spheres. In this wasteland the two little buildings, the cook wagons and the plots of land in the trenches from which little pomegranate bushes and tea roses peered out timidly all seemed unospitable. Such was Dyuzmergen Canyon only two and a half years ago.



And when we arrived in Dyuzmergen again we did not recognize the inhospitable valley of the canyon. A good road now runs here from Nebit-Dag, there is an electric power line, gas line and a route for running water which was wisely attached to the Karakumy canal and will bring running water to Nebit-Dag residents next year. A pomegranate orchard has grown up and is bearing fruit. And all 44 hectares of this desert valley have been transformed into a production and construction site. There are now facilities for housing 75 permanent and 150 temporary sows. Premises for housing 1,000 sheep and rabbit breeding facilities have been constructed. We visited the new facilities for fattening 1,000 sows when the construction workers were preparing the project to be released. And one must say that the farm turned out to be excellent--light, spacious, equipped with automatic waterers of their own design, mechanized distribution of feed, automatic rinsing of the floor and gas heating.

As for the construction program, the second year of the five-year plan promises to be decisive: it is planned to assimilate 1,435,000 rubles for various projects of the subsidiary farm. Trucks loaded with brick, slabs and other materials are constantly coming and going to the construction site in the Dyuzmergen Canyon. Two residential buildings, a feed shop equipped with a full set of mechanisms, a veterinary-slaughter point, and a greenhouse are also being constructed.

With the completion of the construction they will keep 1,800 hogs, 2,000 rabbits and 3,000 sheep, there will be a fruit orchard and a garden. But even today the subsidiary farm is not just under construction; it is already producing an appreciable addition to the collective's food supply. Last year, for example, the agricultural shop produced 5 kilograms of meat for each worker in the trust. This year it will produce 12, and in 1983--20 kilograms of meat per worker. And this in under conditions whereby the labor collective, which was not small to begin with, increased by 1,000 people all at once: two more enterprises--the Stroydetal' combine and the large-panel housing construction combine--were placed under the jurisdiction of Turkmenneftestroy.

And since the trust does not divide the collective into its own and others, it was decided to increase the capacities of the subsidiary production by 2,000 sheep and 1,200 hogs. A curious detail of wise calculation: it turns out that, for example, when the hog fattening facilities were constructed here they had already foreseen the possibilities of expanding it.

When giving the figures for the actual return from the subsidiary farm we counted only pork and mutton. But there is also poultry and rabbit meat.

We must admit that we were surprised by the flock of geese in one of the pens: it is difficult to imagine a goose farm without a body of water. But, as it turned out, this undertaking too had the future in mind.

"There will be a body of water: not even a lake, but an entire sea," B. Kotlyarevskiy assured us and led us to the foundation of a large dam where the construction workers were already laying the base. The dam will catch the streams that come down from the mountains and about 4 million cubic meters of water will accumulate in the natural depression. This means geese, and it is planned to have 500 of them in the basic flock alone. They will be able to run free for most of the year.

This is how it was described--one of the major and most crucial problems. The creators were attracted by the idea of a goose farm primarily because of the inexpensive feeds. And rabbits also. And in order to see another facility for a thousand sheep it was necessary to go to Kizyl-Atrekskiy Rayon, 200 kilometers from Nebit-Dag. The construction workers had to go this far away in order to find land for grazing. In a word, the problem of providing feeds is still critical, and it will be even worse in the future if measures are not taken. For one cannot count on concentrated feeds obtained from the ministries' supplies and from reserves from the republic council of ministers--this is temporary help. There is only one solution: feed production on irrigated land.

More than two years ago the manager of the trust, B. Kotlyarevskiy, went to the ispolkom of the Krasnovodskaya Oblast soviet of peoples' deputies and other agencies with a request: to allot the subsidiary farm 150-200 hectares of land for feed production in Kizyl-Arvatskiy Rayon, in the zone where the Karakumy Canal would come. They refused him immediately, suggesting no alternatives, saying that all of the area in the zone of the canal would be planted in fine-fibered cotton. But up to this point not a single cotton plant has been raised and the planting time for this crop has been postponed until the end of the current five-year plan while the new irrigated land is being used badly. The Karakumy Canal has already come to Kazandzhik, which is even closer--120 kilometers from Nebit-Dag.

But the problem still exists: nobody intends to solve the problem of allotting a section of land for irrigated feed fields. And yet Turkmenneftestroy is not asking to use the land forever. On the contrary, it agrees on conditions that are advantageous to everyone: having obtained the section, the petroleum construction workers are committed to assimilate it through their own efforts precisely according to the plan for land reclamation and then, as soon as the need arises, to return it to the kolkhozes or sovkhoses. Experiencing some inconvenience, of course.

In order to understand how seriously the trust has prepared for this step it is sufficient to visit its area for storing agricultural equipment: there is an abundance of machines, mechanisms and supplies here, and the USSR Ministry of Construction of Petroleum and Gas Industry enterprises is displaying real concern for the development of the subsidiary farms of enterprises under its jurisdiction.

The allotment of plots of land, assistance in acquiring cattle, poultry, seeds, fertilizers and technical equipment, and the attention paid to the subsidiary farms of the enterprises by specialists of agricultural services and local soviets are assuming primary significance.

Lipetskaya Oblast. Gryazinskiy Hydraulic Equipment Plant

During two years its agricultural section has given the workers more than 1,000 quintals of pork. There are now more than 200 head of young large-horned cattle being fattened here.

About three years ago at a trade union meeting there was a detailed discussion about the fact that the time has come for the hydraulic equipment plant to create its own agricultural section and thus augment the food resources and improve the collective's supply of food products. It was decided to construct a hog fattening complex. The main board supported this undertaking. A loan was taken out from the bank. And the main thing is that a firm decision was made immediately: subsidiary does not mean unprofessional, temporary or unreliable. During a half year with their own resources they created a modern animal husbandry enterprise with a feed kitchen, automatic rinsing of the floor and purification installations, and sent the first group of animals for fattening--250 head.

The farm was headed by the experienced agronomist N. Bel'skikh and he is assisted by a veterinarian.

The oblispolkom allotted the plant 100 hectares of land. It acquired four tractors, a combine and trailer equipment. It was also concerned about feeds. Food wastes from the plant's dining rooms, kindergarten and bread combine and wastes gathered from the population amount to more than a thousand quintals. Additionally, we obtain more than 700 quintals from pulp from the sugar refinery and also vegetable wastes from a neighboring Druzhba sovkhoz and skim milk from the dairy. The ministry allots one-third of the concentrated feeds.

And here is the result. During the past two years more than a thousand quintals of pork have been produced and the average daily weight gain of the animals is higher here than on many farms of the rayon while expenditures are less. So the production cost of the meat is not high.

I saw a menu in the plant dining room: for dinner--vinaigrette, mushrooms with onions, chicken and noodles, beef steak with mashed potatoes, compote, beets with sour cream, sauerkraut salad, borshch, fried chicken with mashed potatoes and tea. This costs no more than 60 or 70 kopecks.

The plant director, a deputy of the city soviet, A. Belenko, is an energetic person who takes initiative and pays attention to detail. He and his assistants are already thinking about expanding the subsidiary farm. An apiary with 100 beehives was created here not long ago and the workers have already received about 400 kilograms of honey at the state price. And in the pit left by the construction workers there will soon be a pond with a surface of 3,000 square meters where carp will be raised.

The construction is being completed on a standard cow barn for 50 head. It will be put into operation in a couple of months. Last summer the plant komsomol workers prepared more than 250 quintals of excellent hay. The time is not far away when the creators of hydraulic equipment will obtain milk, sour cream and beef from their agricultural base. After the plant's second section goes into operation they also intend to organize irrigation and raise vegetables here and construct a greenhouse in order to supply the dining room with fresh vegetables year around.

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